



Comparative Analysis of English and Chinese Passive Voice in Machine Translation

Lin Sun

Dissertação/Dissertation

Mestrado Internacional em Processamento de Linguagem Natural
e Indústrias da Língua
International Masters in Natural Language Processing and Human
Language Technologies

Orientação/Supervised by

Professor Jorge Baptista, Universidade do Algarve
Professor Izabella Thomas, Universite de Franche Comté

2014



Comparative Analysis of English and Chinese Passive Voice in Machine Translation

Lin Sun

Dissertação/Dissertation

Mestrado Internacional em Processamento de Linguagem Natural
e Indústrias da Língua
International Masters in Natural Language Processing and Human
Language Technologies

Orientação/Supervised by

Professor Jorge Baptista, Universidade do Algarve

Professor Izabella Thomas, Universite de Franche Comté

This project was supported by the European Commission, Education & Training,
Erasmus Mundus: EMMC 2008-0083, Erasmus Mundus Masters in NLP & HLT

2014

**Declaração de autoria e
autorização de publicação de trabalho académico**

**TÍTULO DA OBRA: Comparative Analysis of English and Chinese
Passive Voice in Machine Translation**

NOME DO AUTOR: LIN SUN

Declaro que o presente trabalho é de minha autoria exclusiva, estando os elementos produzidos por terceiros devidamente referenciados.

Declaro, também, que o conteúdo não constitui tradução, reorganização de qualquer forma de manipulação de documentos produzidos por terceiros.

Declaro, ainda, que a Universidade do Algarve Tem o direito, perpétuo e sem limites geográficos, de arquivar e publicitar este trabalho através de exemplares impressos reproduzidos em papel ou de forma digital, ou por qualquer outro meio conhecido ou que venha a ser inventado, de o divulgar através de repositórios científicos e de admitir a sua cópia e distribuição com objetivos educacionais ou de investigação, não comerciais, desde que seja dado crédito ao autor e editor.

Faro, 05 de Maio de 2014

Abstract

With the development of the human society and the progress of technology, machine translation not only makes it possible for human to translate one source language to the other target languages automatically, but also makes human communication easier than before. It is undeniable that in recent years machine translation has been improved a lot, however, due to the fact that human language is much more complicated and each language has its uniqueness, machine translation still has a long way to go before it can give a qualified output.

As a very important linguistic phenomenon, passive voice has been commonly used in different languages around the world, it is also one of the complicated grammatical aspects for a machine to translate. Take the translation of English and Chinese as an example, since these two languages do not belong to the same family, it is normal that they differ in varied grammatical aspects, including passive voice. In this study, the major differences and similarities of the passive voice in these two languages have been pointed out. In field of machine translation, two machine translation system, Google translator and Baidu translator have been tested with three hundred passive voice sentences taken form a English-Chinese parallel corpus, to see their capacity of translating the passive voice from one language to the other. As a result, all the mistakes have been categorized in order to improve the quality of machine translation.

Keywords: Passive Voice, English, Chinese, Machine Translation, Google translator, Baidu translator.

Extended abstract

Machine translation, with its undeniable significance, makes it more convenient for people to communicate even they do not speak the same language. It also makes a notable contribution to the progress of globalization. However, even after years of development, it still cannot perfectly translate one language to the other. There are more than 6909 languages spoken in 193 countries all around the world, each of the languages has their own uniqueness, and each country has their own culture. Although languages, sometimes share some similarities, but still, all these factors even make it hard for human to translate one source language to another. With different backgrounds, one sentence may sometimes have several versions of translation done by different persons. It can be imagined how hard it could be for the machine to give a qualified translation. Take the translation between English and Chinese as an example, these two languages belong to two language families. English, comes from the Indo-European language family while Chinese forms one of the branches of the Sino-Tibetan language family. Due to this fact, they are dissimilar in varying grammatical aspects. When a machine is translating these two languages, it can face the problems such as the lexical ambiguity, syntactic ambiguity and semantic ambiguity and so on.

In this research, we mainly focused on the study of comparative analysis to the passive voice in English and Chinese. Almost all the languages have passive voice despite of the varied syntactic constructions. English and Chinese are, of course, no exception. However, the passive voices in both languages are differently formed and at the same time share some grammatical similarities. For example, the similarity of the passive voice in these two languages is: Syntactically, the passive voice marked by By/with-phrase in English can be seen as the same like the passive voice marker 被(bei) in Chinese. While from the perspective of semantic analysis, we can find out that in both English and Chinese, passive voice can be used when it is more important to draw our attention to the person or thing acted upon, and so on. Considered to their differences, for example, in English, passive voice is mainly realized by the copula verb plus past participle, and thus forms such a syntactic structure such as Be + V-ed, but in Chinese, there is no special structure that is clearly different from an active voice. After clarifying all these differences and similarities, it makes easy for us to detect some major problems faced by machine translation systems while they translating the passive voice sentences.

With this purpose, we randomly collected 200 passive sentences from an English-Chinese parallel corpus build by Professor Lu Wei: 100 English passive voice

sentences, and their corpus translation, 100 Chinese passive voice sentences with their corpus translation. By using these 200 passive voice sentences, we examined two machine translation system, Google translator (a world-wild machine translation system) and Baidu translator (a Chinese machine translation system) to see their capacity in translating the typical passive voice sentences in different syntactic constructions in both English and Chinese. Together with all these sentences, we manually evaluated the translations provided by Google translator and Baidu translator. All the problems and mistakes had been classified and calculated. The major problems that have been categorized are: the completely wrong translation sentences with different kinds of grammatical problems; partly right sentences with an acceptable change of the synonym words, and so on. Based on our research, we hope that our analysis make some contribution to the comparative analysis of the passive voice in both languages, and also could help to improve machine translation concerned with the passive voice in English and Chinese.

Keywords: Passive Voice, English, Chinese, Machine Translation, Google translator, Baidu translator.

Resumo

Com o desenvolvimento da sociedade humana e do progresso da tecnologia, a tradução automática não só torna possível para o ser humano traduzir de um idioma de origem para seja outras línguas-alvo automaticamente, mas também faz com que a comunicação humana mais fácil do que antes. É inegável que, nos últimos anos, a tradução automática foi melhorar. No entanto, devido ao fato de a linguagem humana ser muito mais complicada e cada língua ter a sua singularidade, a tradução automática ainda tem um longo caminho a percorrer antes de qualidade dar uma saída qualificada.

Como um fenômeno lingüístico muito importante sendo, a voz passiva tem sido comumente usada em diferentes línguas ao redor do mundo considerando, é também um dos aspectos gramaticais complicados de traduzir para uma máquina . Pegue a tradução de Inglês para Chinês como um exemplo, uma vez que estas duas línguas não pertencem à mesma família, é normal que elas diferam em vários aspectos gramaticais, incluindo voz passiva. Neste estudo, as principais diferenças e semelhanças entre a voz passiva nestas duas línguas foram apontadas, Dois sistema de tradução automática, o Google Tradutor e Baidu Tradutor, foram testados com três centenas de frases na voz passiva retiradas de um corpus paralelo Inglês-Chinês, para ver a sua capacidade de traduzir a voz passiva de uma língua para a outra. Como resultado, todos os erros encontrados forma classificados, com vista a melhorar a qualidade de tradução automática.

Palavras-chave: Voz passive, Inglês, Chinês, Tradução Automática, Tradutor Google, Tradutor Baidu

Resumo Alargado

A tradução automática TA, com a sua inegável importância, facilita a comunicação entre as pessoas, mesmo quando não falam a mesma língua, constituindo uma contribuição notável. constituindo uma contribuição notável para o progresso da globalização. No entanto, mesmo depois de anos de desenvolvimento, a TA ainda não consegue traduzir perfeitamente de uma língua para a outra. Há mais de 6909 línguas faladas em 193 países em todo o mundo, cada uma com sua própria singularidade, e cada país com a sua própria cultura. Embora as línguas, às vezes compartilham algumas semelhanças, ainda assim, todos esses fatores tornam difícil para o ser humano para traduzir um idioma de origem para outro. Com diferentes origens, uma frase pode, por vezes, ter várias versões de tradução, realizadas por pessoas diferentes, de qualidade. . Pode-se imaginar o quão difícil pode ser para a máquina para dar uma tradução. considere-se a tradução entre Inglês e Chinês como um exemplo: estas duas línguas pertencem a duas famílias linguísticas distintas. O Inglês, vem da família de línguas indo-europeias , enquanto a língua Mandarin Chinesa forma um dos ramos da família de línguas sino-tibetanas. Devido a este fato, são diferentes em vários aspectos gramaticais. Quando uma máquina tenta traduzir estas duas línguas, pode enfrentar vários problemas, tais como a ambiguidade lexical, sintática e semântica e assim por diante.

Nesta pesquisa, focamos principalmente estudo e análise comparativa da voz passiva em Inglês e Chinês . Quase todas as línguas têm voz passiva. Inglês e Chinês , é claro, não são exceção. No entanto, a voz passiva em ambos os idiomas são diferentemente formadas e ao mesmo tempo compartilhar algumas semelhanças gramaticais. Por exemplo, a semelhança da voz passiva nestas duas línguas é :sintaticamente, a voz passiva é marcada pelo complemento preposicional introduzido por "by" (por) ou "with" (com) em Inglês; por seu turno, em Chinês, o mesmo estatuto pode ser atribuído ao marcador de passiva (bei). Do ponto de vista da análise semântica, podemos considerar que, tanto em Inglês como em Chinês, a voz passiva pode ser utilizada quando. Do ponto de vista da análise semântica, que em Inglês e Chinês, a voz passiva pode ser usada quando é mais importante para chamar a nossa atenção para a pessoa ou coisa posta em prática. Considerando as suas diferenças, por exemplo, em Inglês , a voz passiva é realizada principalmente pelo verbo cópulativo e o particípio passado de verbo, e , assim, forma uma estrutura sintática be + v-ed ,contado, em Chinês, não há nenhuma estrutura especial que seja claramente diferente de uma voz ativa. Depois de esclarecer todas essas diferenças e semelhanças, torna-se mais fácil para detectar alguns dos principais problemas enfrentados pelos

sistemas de tradução automática, quando procuram traduzir frases na voz passiva.

Com este propósito, foram coligidas aleatoriamente 200 frases passivas de um corpus paralelo Inglês - Chinês, construído pelo Prof. Lu Wei: 100 frases passivas em Inglês e sua tradução em Chinês e 100 frases passivas em Chinês e respectiva tradução para Inglês. Ao utilizar essas 200 frases de voz passiva, examinamos dois sistemas de tradução automática, o Google Tradutor (um sistema selvagem mundial de tradução automática mundialmente utilizado) e Baidu Tradutor (um sistema de tradução automática chinês) para ver a sua capacidade de traduzir frases típicas na voz passiva, em diferentes construções sintáticas, em Inglês e em Chinês. As traduções fornecidas por cada um dos sistemas foram manualmente avaliadas, avaliadas manualmente as traduções fornecidas pela Google tradutor e Baidu tradutor. Todos os problemas e os erros foram classificados e contabilizados. Os principais problemas que foram categorizados foram: as frases de tradução completamente errada com diferentes tipos de problemas gramaticais; frases em parte corretas com uma mudança aceitável de certas palavras por sinónimos, e assim por diante. Com base na nossa pesquisa, esperamos fazer alguma contribuição da análise comparativa para a voz passiva em ambas as línguas, e também ajudar a melhorar a tradução automática da voz passiva em Inglês e Chinês.

Palavras-chave: Voz passive, Inglês, Chinês, Tradução Automática, Tradutor Google, Tradutor Baidu

Acknowledgment

First and foremost, I would like to show my deepest gratitude to my supervisors, Professor Izabella Thomas and Professor Jorge Baptista. Without their enlightening instruction, impressive kindness and patience, I could not have completed my thesis.

I shall extend my thanks to the professors in Universite de Franche-comte for their kindness and help. My sincere appreciation also goes to the European Commission, Education & Training, Erasmus Mundus Masters in NLP & HLT, without their great support, I could not finish my study in such a good way.

Last, I would like to thank my love to my parents, my friends for their love and help.

Table of Contents

<i>1. Introduction.....</i>	<i>10</i>
<i>Research Objectives.....</i>	<i>10</i>
<i>Research Questions.....</i>	<i>10</i>
<i>Layout of the Study.....</i>	<i>11</i>
<i>Chapter 1 Comparative study of the passive voice in English and Chinese.....</i>	<i>11</i>
<i>1.1. Literature review.....</i>	<i>12</i>
<i>1.1.1. Different viewpoints on the passive voice in English grammar.....</i>	<i>12</i>
<i>1.1.2. General ideas on the passive voice in Chinese grammar.....</i>	<i>20</i>
<i>1.1.3 Comparative studies of the passive voice in English and Chinese.....</i>	<i>22</i>
<i>1.2. Brief Introduction to Passive Voice in English and Chinese.....</i>	<i>24</i>
<i>1.2.1. English passive voice.....</i>	<i>24</i>
<i>1.2.2. Chinese passive voice.....</i>	<i>28</i>
<i>1.2.3. Summary.....</i>	<i>31</i>
<i>2.1. Methodology.....</i>	<i>34</i>
<i>2.1.1. Corpus.....</i>	<i>34</i>
<i>2.1.2. Machine translation system.....</i>	<i>34</i>
<i>2.1.3. Evaluation.....</i>	<i>34</i>
<i>2.2. Data Analysis.....</i>	<i>37</i>
<i>3. Conclusion.....</i>	<i>41</i>
<i>Appendix1.....</i>	<i>44</i>
<i>Appendix 2.....</i>	<i>53</i>
<i>Appendix 3.....</i>	<i>61</i>

Appendix 5.....	77
-----------------	----

Index of Tables

Table 1 Summary of frequency of syntactic and lexical passives in Chinese; source: Andrew Methven (2006).....	23
Table 2 Passive Voice Used in Different Tenses; source: Zhang Daozhen (1998).....	26
Table 3 Error analysis: Chinese to English.....	36
Table 4 Error analysis: English to Chinese.....	37

Index of Figures

Figure 1 . Expression of the active voice in Formal Grammar; source: Chomsky (1957).....	16
Figure 2 Expression of the passive voice in Formal Grammar; source Chomsky (1957).....	16
Figure 3 Classification of translation errors.....	35

1. Introduction

It is a common knowledge that verbs are often said to be either active or passive in voice, the voice (also called diathesis) can show the relationships among the subject, the object and the verb. In English language for example, if the subject acts, which means the subject of the sentence is the agent or a doer of the action, then the verb takes the form of active voice. To the contrary, if the subject of the sentence is neither a doer nor a be-er, but is the patient or recipient, which means that the subject is acted upon by some other agent; the verb takes the form of passive voice. Active voice is considered easier to be understood than passive voice. For example in English, the passive voice has an original formation of be/get + v -ed, such as *is made*, *are taken*, *will be moved*, of which the auxiliary verb *be* is called static passive auxiliary and *get* is called dynamic passive auxiliary. Also, when an agent of the action (that is, the person or entity performing the action) must be described, a prepositional phrase will be introduced. That is, a “by” phrase will be used so as to take the agent. Almost all the languages have passive voice despite of the varied syntactic constructions. English and Chinese (in this thesis, all the studies and researches are based on the Mandarin Chinese), of course, no exception. However, the passive voices in both languages are differently formed and at the same time share some grammatical similarities. Also, passive voice has been considered as one of the most difficult grammatical points for any machine translation (MT) system to deal with. Due to this fact, we started our research.

Research Objectives

In order to launch our investigation, we set three objectives. Firstly, we need to compare both the English and Chinese passive voices, so as to shed light on the major differences existing at lexical, syntactic and semantic levels. Secondly, we selected 150 sentences for each language form a bilingual corpus, and take two commonly used machine translation systems to check their capacity to deal with sentences in passive voice. Thirdly, the data has been analysed, in order to find out the major difficulty for machine to translate the passive voice between two languages, and to see how much the machine translation systems can deal with the possible differences exhibited in passive voices in both languages. By doing so, we hope to find some common problems that machine translation systems fail to cope with.

One more thing needs to be stressed here is that as passive voice is one of the most complicate grammatical phenomena in both languages we only focus on passive

voice found in predicate. All the other forms of passive voice are excluded, for example, the past participle, and the non-finite forms of verbs and so on.

Research Questions

To fulfill our objectives, we thus raise three research questions accordingly.

a. What are the major differences between English and Chinese when passive voice is employed?

To answer this question, we need to check at almost all grammatical levels, namely, lexical, syntactic and semantic levels.

b. What kind of performance does a machine translation system have when translating sentences in passive voice between the given languages, especially those sentences which are constructed in quite different structures?

c. What are the common problems found in the machine-translated sentences? And what are the potential reasons that cause such problems?

Layout of the Study

In the introduction part of this thesis, we introduce the objectives of the research, the research questions, and the layout of the study. Chapter One is the comparative study of the passive voice in English and Chinese. In this part we will examine and introduce some relevant studies done by researchers about English and Chinese passive voice form different grammatical features. In order to have a briefly introducing the basic grammatical features of passive voices in both languages in general and then further compare and differentiate some language-specific features in terms of lexical choices, syntactic constructions and semantic contents. In Chapter two, we focus the study on the comparative analysis of the English and Chinese passive voice in machine translation, the first part, literature review will have a brief introduction of some researches about the machine translation, so as the development of the machine translation in China. Also, the researches about the passive voice in machine translation will be pointed out. After knowing the general situation, we will introduce the methodology, that is the corpus we use, the two machine translation system, and the evaluation skill. The last part of this chapter is the analysis of results, to categorize the different types of mistakes and so on. At last, will be the conclusion of the whole thesis, and the possible suggestions.

Chapter 1

Comparative study of the passive voice in English and Chinese

1.1. Literature review

Passive voice has been a hot topic for linguists throughout the world. We can find many literatures very easily concerning this topic. Different linguists lay focus on varied dimensions of the usage of passive voice. To facilitate our research, we purposely choose some of them so that we can take advantage of their theoretical framework or experiences.

1.1.1. Different viewpoints on the passive voice in English grammar

Passive voice, as an important grammatical feature, a great amount of researches had been done within the development of the English grammar.

A. Traditional grammar

The study of English grammar started from the early seventeenth centuries. In traditional grammar, the scholars divided the English voice into the active voice and the passive voice. In the book *Introduction to the Traditional Grammar* (Bella Millett, 2011), it mentions that “Verb, a word expressing a state or action...the verb has two voices, active (e.g. the dog bit the man) and passive (e.g. the man was bitten by the dog). The passive voice is formed by the verb be and the past participle of the verb.” Traditional linguistics considered the study of the passive voice as the learning of its relation to their active counterparts in both meaning and structure.

Ouirk (1985), one of the most well-known linguist of the traditional grammar, holds the view that “Voice is a grammatical category which makes it possible to view the action of a sentence in either two ways, without change in the facts reported. The English voice is composed of the active voice and the passive voice.” From his point of view, the active-passive relation has two grammatical levels: the verb phrase and the clause. In the verb phrase, the difference between the two voices is that “the passive voice adds a form of the auxiliary *BE* followed by the past participle (*-ed* participle) of the main verb”. While in the clause level, to change the active into the passive requires the arrangement of two clause elements and one addition: “(a) the active subject becomes the passive AGENT; (b) the active object becomes the passive subject; (c) the preposition *by* is added to introduce the agent. The prepositional agent phrase (AGENT *BY*-PHRASE) of passive sentences is an optional sentence element.”

He also summarized that the transformation of the voice can be expressed by the following forms:

noun phrase1 + active verb phrase + noun phrase2

noun phrase2 + passive verb phrase + (*by* noun phrase1)

Although the structure of a sentence will change under the voice transformation, its meaning remains the same.

(1) The men respect her.

(2). She is respected by the men.

Sentence (1) is in active voice while sentence (2) is in passive voice transformed by sentence (1), they are differently formed, however still remains the same meaning.

In his description, he also pointed out that “the purely formal definition of the passive, *viz* that the clause contains the construction ***be*** (or ***get***) + -ed participle, is very broad.” Under this circumstance, the following passive gradient has been pointed out by him.

1. Central passives

(1). This violin ***was made*** by my father.

(2). This conclusion ***is*** hardly ***justified*** by the results.

(3). Coal ***has been replaced*** by oil.

(4). This difficulty ***can be avoided*** in several ways.

These four sentences show the example of the passive voice type called “central passives”, or “true passives”, while the first two sentences have a direct active-passive relation. Take the first sentence as an example, the passive voice sentence can be transformed into active voice as: My father made this violin.

Sentence (3) have some unclarity about the nature of the active counterpart, there are two possible active counterparts, depending on the interpretation of the *by-phrase*. It means that the passive voice have two possible active forms. The sentence can be transformed as:

(1) Oil has replaced coal.

(2) (People in many countries) has replaced coal by oil.

In the former case, the *by-phrase* has been interpreted as an agent phrase corresponding to the active subject, but in the latter case, the *by-phrase* has been given an instrumental interpretation.

Sentence (4) shows the most common type of passive, which has no expressed agent, and so leaves the subject of the active counterpart undetermined.

2. Semi-passive

(5) We ***are encouraged*** to go on with the project.

(6) Leonard ***was interested*** in linguistics.

Sentence (5) and (6) represent the semi-passive or the mixed class, in which the past participle has both verbal and adjectival properties. They are verb-like in having active analogues, for example, sentence (6) can be transformed as 'Linguistics interested Leonard'. On the other hand, their adjectival properties include the possibility of:

- (a). Coordinating the participle with an adjective;
- (b). Modifying the participle with *quite*, *rather*, *more*, etc;
- (c). Replacing *be* by a lexical copular verb such as *feel* or *seem*:

So the sentence (6) can also be transformed as 'Leonard *seemed* very interested in *and keen* on linguistics'.

3. Pseudo-passives

(7) The building ***is*** already ***demolished***.

(8) The modern world ***is getting*** ['becoming'] ***more highly industrialized and mechanized***.

These two examples can be called pseudo-passives, since it is chiefly only their superficial form of verb + -ed participle that recommends them for consideration as passives.

Although Quirk's explanation of the passive voice system and classification has been adopted during the period of his time, with the lapper of time, some questions have been raised by the newly developed grammarians and linguist. Their doubts like if the semi-passives and the pseudo-passive voices are truly passive voice or can all

the direct object of activities be changed into passives is hard to answer by the traditional grammarians' researches.

Under this circumstance, the pure formation of the passive voice *be + V + past participle* accepted by the traditional linguists can no longer satisfy the strict researches. Also, the simple belief of the active and passive pair is different structured but same in meaning can no longer be stable, for example, the active sentence "Tom cannot do it" expresses the ability of the doer, while the passive sentence "It cannot be done by Tom" shows more possibility of an action.

B. Transformational-Generative Linguistic Approach

With these non-ignorable questions, the newly theory has been put forward. The development of the transformational generative grammar widened the research of the passive structure. Chomsky, in the field of the transformational-generative grammar held the point that the grammar should be formalized. His discussion forced on different kinds of transformational phenomena and gave some complex rules that supplied them. In his book *Syntactic Structure* (1957), the idea of "each sentence in a language has two levels of representation—a deep structure and a surface structure" has been developed. He believed that the deep structure represented the core semantic relations of a sentence and was mapped on the surface structure via transformations.

Specialized in passive voice, Chomsky (1957) pointed out that it is not enough to use phrase-structure rules alone to indicate the relationship between active forms and their passive counterparts, so he used some certain passive transformation rules to explain the derivation of passives. In his view, the active is taken as kernel construction, while the passive is derived from the deep structure by a sequence of transformations. In the transformational grammar, several rules can show the relation of the active-passive pair.

For example, the rearrangements: (1) NP1 and NP2 in a different order; (2) the insertion of the auxiliary element of *be+en*; (3) the insertion of the element of *by* to the left of the permuted NP1. From his point of view, if the active-passive sentences are,

(1) Tom cleaned room.

(2) The room was cleaned by Tom.

Then sentence (1) can be expressed syntactically in his formal grammar as:

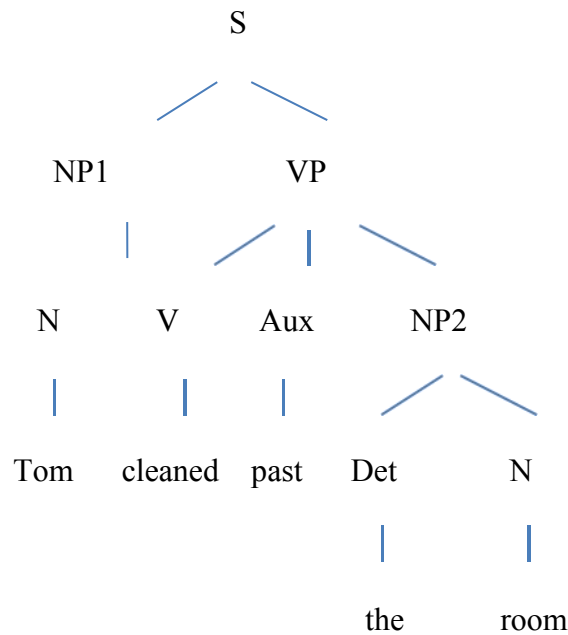


Figure 1. Expression of the active voice in Formal Grammar; source: Chomsky (1957)

While the passive voice sentence: *The room was cleaned by Tom* should be expressed as:

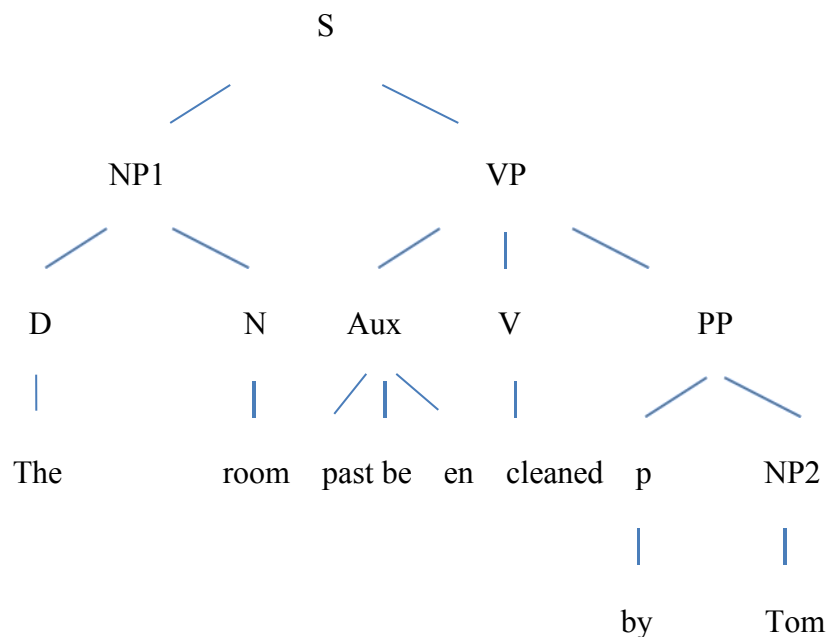


Figure 2 Expression of the passive voice in Formal Grammar; source Chomsky (1957)

Sentence (2) is derived sentence from its corresponding active form sentence (2). These two sentences share the same underlying source-identical kernel sentences, and the deep structure of the passive sentence is basically active in organization. Besides, the object of "by" in passive is degraded form the subject in the corresponding active sentence, or some grammatical morphemes marking the passive construction (by, be

and –ed participle) are meaningless entities with only formal or syntactic functions.

While in his later research, he pointed out the limitations of this passive transformational rule, when the active and its passive pair have qualifiers, they are not potentially synonymous. For example,

(1) Everyone in the room speaks at least two languages.

(2) At least two languages are spoken by everyone in the room.

In this example, sentence (1) is not synonymous with sentence (2). The first sentence focus on the fact that all people can speak at least two languages, while the second sentence refers to that all of them speak the same two or more languages, that is to say when one person in the room can speak English and French, the other can speak Chinese and English, for sentence (1) it is available, however it is unacceptable by sentence (2).

In 1971, Chomsky put out a new transformational model and called it the Extended Standard Theory. In this new version, he concludes that semantic interpretation cannot wholly be determined by properties of deep structure because many aspects of surface structure also contribute to the semantic interpretation. In his later research called Trace Theory, he asserts that all interpretation takes place at the level of surface structure. This level is enriched by traces left by the application of the movement rules. He explained that a moved NP is taken to leave behind a trace which remains in surface structure unless it is covered up by the insertion of a lexical item into its place in the grammar tree, the trace is interpreted as a bound variable, with all the relevant properties of its controller, the noun phrase to which it is bound.

In this way, the analysis of the passive voice by Chomsky has tried to perfect the transformational on the notion that the passive voice is just the transformation of active voice. However, the disadvantages of his analysis have been pointed out, linguistics like Granger (1983) comments that “The complexity and richness of the passive structure are not even hinted at in the transformational accounts of the passive. The main reason why transformational grammar offers so few insights into the workings of the English passive is that the transformationalists and most particularly Chomsky have not investigated the passive for its own sake but as a ‘tool’ to demonstrate the validity of the different transformational models...”

C. Functional analysis

In field of functional grammar, the key of transformational grammar believed has been denied, that is the surface and deep structures lost its value to the

functionalists. In functional grammar, the generate sentences in conformity with grammaticality through transformations is unnecessary, the functionalists concerned with the factual content of natural language and its communicative function, language is a tool to meet the need of human communication.

The approach of functional grammar was first pointed out by the Linguistic School of Prague, three main ideas have been stressed. (1) The synchronic study of language is fully justified as it can draw on complete and controllable material for investigation but no rigid theoretical barrier is erected to separate diachronic studies. (2) There is an emphasis on the systemic character of language. It is argued that no element of any language can be satisfactorily analyzed or evaluated in isolation and that assessment can be made only when the relationship of an element is established with coexisting elements in the same language system. In other words, elements are held to be in functional contrast or opposition. (3) Language is looked on as functional in another sense, which is as a tool performing a number of essential functions or tasks for community using it.

Halliday (1979), followed the Prague linguists and advocates a synthesis of structural and functional approach. In his research, three function of language has been pointed out: ideational function, interpersonal function and textual function. In his comment, the connection of these three functions can be found: “If the ideational component is language as reflection (the speaker as observer of reality), and the interpersonal component is language as action (the speaker as intruder in reality), and the textual component is language as relevance (the speaker as relating to the portion of reality that constitutes the speech situation, the context within which meaning are being exchanged).” Detailed in English voice, he divided it into two categories: the middle and the non-middle. He described “The way the voice system works as follows. A clause with no feature of ‘agency’ is neither active nor passive but middle. One with agency is non-middle, or effective, in voice. An effective clause is then either active or passive: active if Agent/Subject, passive if Medium/Subject...if the clause is effective, since either participant can then become subject there is a choice between active and passive. The reasons for choosing passive are as follows: (1) to get the Medium as Subject, and therefore as unmarked Theme. (2) to make the agent either late news, by putting it last, or implicit, by leaving it out.” (Halliday, 2000)

D. The passive voice in lexical-semantics

In field of the lexical semantics, Rick Morneau (2007) described that “natural languages have many ways of changing the relative importance or topicality of a verb's arguments. Languages can also remove arguments from the argument structure,

while implying that they still exist, and make the missing arguments either obliquely expressible or not expressible at all. Finally, languages can also incorporate normally oblique arguments, making them part of the argument structure of the verb.” The definition of different voices had been defined as.

“Active - transitive: The subject is slightly more important or topical than the object. Both must be expressed.

Passive: The original object becomes the subject and becomes considerably more topical than the original subject. The original subject is no longer part of the verb's argument structure, and does not have to be expressed. However, it is always implied and may be expressed obliquely (in English, typically using the preposition "by").

Middle: The original object is made more topical and becomes the subject. The original subject is deleted from the verb's argument structure and may not be expressed at all even though it is implied.

Anti-passive: The subject is made considerably more salient than the object. The original object is no longer part of the verb's argument structure, and does not have to be expressed. However, it is always implied and may be expressed obliquely.

Inverse: The arguments of the active verb are simply reversed. The original object becomes the subject, gaining in importance; and the original subject becomes the object, losing importance. Unlike passive, the original subject is not oblique and must appear.”

To be specific, he also gave the following example(Morneau, 2007),

“John broke the window. = active voice

The window was broken.

= passive voice, implied agent

The window was broken by John.

= passive voice, oblique agent

The window was broken with a hammer.

= passive voice, oblique instrument, implied agent

A hammer broke the window.

= incorporated instrument, agent cannot be expressed at all

(*by John), new structure is something like I+P-d, where I =instrument.

The window broke accidentally.

= middle voice, implied agent, agent cannot be expressed at all (*by John).

The window broke.

= P-d verb. This is sometimes confused with middle voice. In the system described in this monograph, this verb is a basic verb and the example is in the active voice. No agent is expressed or implied.

John broke something.

= anti-passive (this is an approximation - English does not have a true morphological anti-passive construction). The agent alone is prominent. The patient loses its prominence but maybe expressed obliquely. However, even when not expressed obliquely, a patient is always implied.

The window broke John. (poetic license needed here) or

The window, John broke it.

= inverse voice (again, these are approximations - English does not have a regular inverse construction). Patient becomes subject, agent becomes object and must appear.”

1.1.2. General ideas on the passive voice in Chinese grammar

Although in Chinese, the use of passive voice is far less than in English, but it is still a very important construction.

Yip Po-Ching (2004) mentioned that “there are three forms of passive voice in Chinese:

(a) the notional passive - where no formal passive marker is employed.

wenti || jieju le (lit. problem || solve le)

The problem was/has been solved.

(b) the formal passive - where a passive marker like 被 bei is introduced.

wenti || zhong bei jieju (lit. problem || finally bei.by solve)

The problem was finally solved.

(c) the lexical passive - where a verb, indicating that the subject or the topic is the 'receiver' of the action, is followed by a nominalized verbal object.

wenti || dedao le jieju (lit. problem || receive le solution)

A solution was found for the problem.

wenti || dedao jieju le (lit. problem || receive solution le)

A solution has been found for the problem.

In the book *Passive and Voice* (1988), together with the other 17 original papers dealing with the voice, Mantaro J. Hashimoto talked about the structure and typology of the Chinese passive construction. Despite of the generally agreement among the passive voice is constructed with the passive marker 被(bei), and he considered the word 被(bei) has some colloquial counterparts like: 叫(jiao, let/by), 让(rang, allow/by) and 给(gei, give/by) as the dialect in Northern Chinese. Due to these facts, he argued in his study that “(a) the modern Chinese bei (sustain/by) construction is basically an embedding structure of the type found in the southern minority languages, (b) while jiao (let/by), rang (allow/by) and gei (give/by) on the one hand and bei (sustain/by) on the other hand behave more or less the same on the surface, there are some clear deep syntactic and typological differences between these two groups of passive markers, and (c) the change from bei (sustain/by) to jiao (let/by)/rang (allow/by) undoubtedly marks the Altaicization of modern Chinese linguistic structures [perhaps gei (give/by) and its correspondents constituting the intermediate stage] - the typological transition a step forward from the basically Tai (and perhaps some Austroasiatic) construction to the Altaic structure.”

We can also find the introduction of the Chinese passive voice in the book *The Establishment of Modern Chinese Grammar*, Yuzhi Shi listed four markers for the passive construction.

(a) Rang 让

活儿 都 让 他们 干 完 了。

(task) (all) (rang) (them) (do) (finish) (past participle)

All of the tasks have been completely done by them.

(b) Jiao 叫

墨水 瓶 叫 弟弟 打翻 了。

(link) (bottle) (jiao) (brother) (strike down) (past participle)

The link bottle was struck down by the brother.

(c) Gei 给

这 本 书 给 你 弄脏 了。

(this)(measure word for book)(book)(gei) (you)(make-dirty) (past participle)

This book was dirtied by you.

(d) Bei 被

窗户 被 工人们 刷上 了 绿 漆。

(window) (bei) (workers) (paint-up) (past participle) (green) (lacquer)

The window has been painted green by workers.

In these four markers, he pointed out that “ In Modern Chinese *bei* has become purely a passive marker at the expense of its original verbal use, but the other three markers still co-exist with their full verbal uses: *rang* and *jiao* are synonymous, means ‘ask’, ‘call’ or ‘make (somebody do something)’, and *gei* means ‘give’”. Speaking to their difference, he considered that the passive marker *rang*, *jiao*, *gei* are more often used in the spoken language, but *bei* is more commonly used in written language.

According to Chaofen Sun, the indicator of passive voice in Chinese is commonly placed in front of a doer/agent and it is often a preposition. He pointed out that “The most common prepositional, passive marker is 被 *bei*. Although many Chinese causative markers such as ‘让 *rang*, 给 *gei*, and 叫 *jiao*’ can be used interchangeably, 被 *bei*, unlike other passive markers, a verb meaning ‘to suggest/to receive’ in old Chinese, has practically lost all of its ability to function as a verb in modern Chinese.” He also brought up the common knowledge that in Chinese, the passive voice with those markers always implies a sense of adversity, or misfortune.

1.1.3 Comparative studies of the passive voice in English and Chinese

In the research of Andrew Methven (2006), he first made a brief introduction of the voice and passive. In his study, he quoted some opinions from several scholars, and pointed out two kind of passive voice,(1) long and short passives, (2)notional passives. As in his description, he said that “according to Xiao and Emery (2005), ‘the passive voice is often used as a strategy that allows language users to avoid mentioning the agent’, and in majority of cases, the subject of the active verb – the agent - is not expressed in the passive. These ‘agentless’ passives are know as ‘short passives’, and the less frequent passives that do have an agent are known as ‘long passives’ (Xiao et al., 2005; Huang, 1999).” While for the Notional Passives, he quoted the description done by Kenneth (1993), that is “some verbs in the active voice can express passive meaning, for example these clothes wash well, can have the

meaning these clothes are washed well. This type of sentence is known as a notional passive.”

In the second part, he compared the passive voice in English and Chinese from several perspectives. The first perspective is the comparison of passive constructions. In this part, he figured that the English passive voice can be marked by a copular verb followed by the past participle of a verb, for example, *be*, *seem* *become* etc. The unmarked passive form in English is *be+past participle*, but other copular verbs can be used such as *become* and *get*. While in Chinese, the passive voice change is marked overtly through the addition of a passive morpheme, or covertly through implicit semantics.

Passive Type	Passive Marker	% of total Occurrences	Long passive		Short passive	
			Frequency	Percent	Frequency	Percent
Syntactic Passive	<i>Bei</i>	87.3%	511	39.3%	789	60.7%
	<i>Wei...suo</i>	60.0%	69	100.0%	-	-
	<i>Gei</i>	1.5%	17	42.5%	23	57.5%
	<i>Jiao</i>	0.4%	4	100.0%	-	-
	<i>Rang</i>	1.6%	15	100.0%	-	-
Lexical Passive	<i>Ai</i>	52.6%	1	3.3%	29	96.7%
	<i>Shou</i>	60.4%	132	31.9%	282	68.1%
	<i>Zao</i>	82.0%	34	37.4%	57	62.6%

Table 1 Summary of frequency of syntactic and lexical passives in Chinese; source: Andrew Methven (2006)

Except the passive marker *bei*, there are several other passive morphemes in Chinese, for example *rang*, *jiao*, *gei*. And the archaic structure *wei... Suo*. By using a parallel corpus, he provided a table (Table 1) to show the frequency of syntactic and lexical passives in Chinese.

In the third part of his comparative analysis, he compared the usage of the passive voice in both language, and he summarized that “it has been shown that the usage and implications of the passive in Chinese is very different to that of English. Therefore the manipulation of transitivity to convey intentionality and ideology (Hatim and Mason) in English is unlikely to be reflected using same constructions in Chinese due to genre and semantic restrictions. Therefore having recognised such patterns in an English text, alterations to the transitivity patterns have to be implemented in order to reflect the same relations of power and ideology in the target text.”

Han Qin (2002) focuses on the differences and similarities of the English and Chinese passive voices. She describes in great detail the features of the passive voice found in both languages. While Long Jianghua (2005) discusses how passive voice is used in news items and how they can be well translated into Chinese. He also focuses on the frequency of passive voices used in news items and concludes that passive voice is used more in news items compared with other writing styles. In her monograph on Chinese syntax, Zhang Yufeng (2003) puts in one chapter the discussion of the passive voice in Chinese language from all aspects: lexical, syntactic, semantic and even pragmatic.

1.2. Brief Introduction to Passive Voice in English and Chinese

According to the previous study, we will have a brief introduction of English and Chinese passive voice in this chapter, basically from syntactic structure, lexical choices and semantic content.

1.2.1. English passive voice

A- Lexical Choices

In English, passive voice is mainly realized by copula verb plus past participle. Generally speaking, few words are specifically used to express the passive voice such as become, get and with. As Chinese is considered as a morphologically impoverished language and lacks the similar verb constructions, lexical items or in many cases, particles play a very important role in expressing some grammatical meanings, including “passive meaning”. Unlike English, in Chinese, to express the meaning of passiveness, we often choose certain Chinese characters to help construct the passive

structure among which the most frequently used is “被 bei” . But it is not the only character used in passive voice, there are other characters, namely, “让 rang”, “叫 jiao”, “给 gei”, “受 shou” and “为 wei” and so on. These particles, semantically conveying more or less the similar meaning can often be used alternatively. In some cases, they cannot be used interchangeably (Daozhen Zhang, 1998).

For example,

由于 全球 变暖, 城市 可能 被 完全地 淹没。

(due to) (global) (warming) (city) (could) (bei) (completely) (submerge)

Due to global warming, cities could be completely submerged.

In this sentence, the particle “被 bei” cannot be replaced by any of them: “让 rang”, “叫 jiao”, “给 gei”, “受 shou” and “为 wei”.

A. Syntactical constructions of English passive voice

As mentioned in the previous sections, the passive voice in English is always considered as the structure with an original formation of *be/get + v -ed*. Meanwhile, some passive voices are marked by *by*-phrase or *with*-phrase. That is to say, lexically, there are two English prepositions employed in passive voice. As we know, passives with *be* as an auxiliary verb are most commonly used, and are always called the Be-passive. So the first type of English passive voice is:

- a. The passive voice in original formation of *be/get + v-ed*. The syntactical structure is:

NP + Be/Get + V-en

- (1) The cake has been eaten.
- (2) The roads have been covered.
- (3) The captain has been attacked.

Another type of English passive voice is:

- b. The passive voice marked by *by*-phrase or *with*-phrase. With its syntactical structure as:

NP1 + Be + V-en + By/With + NP2.

- (1) The cake has been eaten by Tom.

(2) The roads have been covered with snow.

(3) The captain has been attacked by a knife.

From these examples we can see that in first type of English passive voice, the sentence has a receiver and an action. While in the second type of passive voice, despite of these features, there is also an agent in the sentence. According to this difference, these two types of passive voice can be used in different conditions.

However, since the passive voice expresses the relationships between doers and receivers, which mean that, the subject in passive voice is acted upon as patient. Because of this reason, there is the third type of English passive voice.

The non-marked passive voice.

(1) The car needs preparing.

(2) The box weighs ten kilogram.

This two sentences are the examples of the third type of passive voice in English, both the subject in these two sentences had been acted upon as a patient, and all these action had done by someone or something else to these subject.

. We can see that this type of passive voice does not look like other passives as they do not possess the same form, i.e. Be + v-ed, or with By/Ger phrases. However, semantically they are passives.

Subject	Auxiliary	Past Participle	Tense
The cake	is/are	made	Present
The cake	has/have been	made	Present perfect
The cake	was/were	made	Past
The cake	had been	made	Past perfect
The cake	will be	made	Future
The cake	will have been	made	Future perfect
The cake	is/are being	made	Present progressive
The cake	was/were being	made	Past progressive

Table 2 Passive Voice Used in Different Tenses; source: Zhang Daozhen (1998)

What is more, passive voice can be used in various tenses due to the different situation. According to this fact, Zhang Daozhen (1998) provided a table (Table 2) to show the detailed information of passive voice used in various tenses.

B. Semantic analysis

The passive voice is widely used in English language. To analyze the passive voice from a semantic point of view, we will find that the passive voice conveys more or less the following semantic implications:

- a. The actor or the do-er is unclear.

The house has been pulled down.

This sentence only expressed the fact that the house has been pulled down. However, it did not clearly indicate the doer who conducted the act. Therefore, it is clear that when the doer of the action is unclear, the passive voice can be used.

- b. The actor or the do-er is not important enough to mention.

This kind of car is made in Shanghai.

The main focus of this sentence is that the producing area of this kind of car is in Shanghai, and it is unnecessary for readers to know who made this car. So we can use the passive voice and leave out the doer. Or in other words, it is considered as unnecessary to point out the doer or it is better not to mention the doer.

- c. To stress the actor, the do-er or the action.

The paper is cut by the knife.

Also, we can see very clearly that in this sentence, *knife* has been stressed, and there is no doubt that the knife has been used to cut the paper. It is perfect to use a passive voice to stress the key point of the sentence.

- d. To balance the sentence or for any other contextual need.

He was rumored to be a war veteran.

This is more or less like a gossip and in such a case; it is usually hard to point out the person(s) or even where the rumor comes from. Therefore, passive voice can best express such ambiguous background information.

The passive voice can also be used pragmatically in poem, novels, or any texts for other similar contextual needs.

1.2.2. Chinese passive voice

A. Syntactical constructions of Chinese passive voice

Same as English, Chinese also has two voices: active voice and passive voice. In Chinese active voice, the subject does the action; on the contrary, if the subject is acted upon, it can be considered as passive voice.

Furthermore, Chinese passive can be classified into three types Zhang Yufeng(2003):

- a. The passive voice marked by the particle word “被 bei” (by) (“被 bei” construction)

The particle word “被 bei” can be seen as the most typical marker of the passive voice in Chinese language.

(1) 这个 蛋糕 被 我 吃 了。

(this) (cake) (bei) (I) (eat) (past participle)

The cake was eaten by me.

(2) 男孩 被 骗 了。

(the boy)(bei) (cheat) (past participle)

The boy has been cheated.

(3) 树 被 砍 了。

(trees) (bei) (cut) (past tense)

Trees have been cut down.

In the first sentence, “吃” (eat) is the action of the subject “我” (I). While in the second sentence, “蛋糕” (the cake) is the patient of the action “吃” (eat) done by the doer “我” (I).

Typologically speaking, Chinese is mainly a SVO language. However, in sentences where there are two objects of which one is direct object and the other is indirect object, another type of sentence is also frequently used. If we analyze such sentences superficially, they are no longer SVO but SOV and they are called Ba-construction. In Ba-construction, ba (把) is considered as a preposition which functions as a marker that pre-poses the direct object in front of the verb, thus making the syntactic structure different from the SVO type. Let us take an example to illustrate such syntactic change.

(1) I ate the cake. (active)

我(I) 吃(eat) 了(past participle) 这个(this) 蛋糕(cake)。

NP1 V -ed DetNP2

We can also express the same idea by using the Ba-construction(Still in active voice) :

我(I) 把(ba) 这个(this) 蛋糕(cake) 吃(eat) 了(past participle).

NP1. ba Det. NP2 V -ed

If we want to change these two active voice sentences into passive one, usually there is only one choice as demonstrated below:

Passive: The cake was eaten by me

这个(this) 蛋糕(cake) 被(bei) 我(I) 吃(eat) 了(past participle)。

Det. NP2 bei NP1 V -ed

This time the passive voice marker *Bei* well indicates who did the action. Here the function of *Bei* is similar to that of *by* in English passive voice.

- b. The passive voice is marked by functional words (also regarded as the causative structure in Chinese).

If particles, such as “让” (rang), “叫” (jiao), “给” (gei), “遭” (zao) appear in a sentence, we can usually consider the sentence as a passive voice (though not necessarily, as most Chinese characters are of multi-part of speech and have more than one grammatical functions). Just like “被 bei”, they also function as the markers of the passive voice in some cases. The passive voice marked by these function words is more lively and visualized in Chinese language, we hereby take some major ones as examples.

(1) 她的 手 让 玻璃 划 了。

(her) (hand) (rang, passive marker) (glass) (cut) (past participle)

Her hand was cut by a piece of glass.

(2) 孩子 给 他 打伤 了。

(the child) (gei, passive marker) (he) (hurt) (past participle)

The child was hurt by him.

(3) 他 遭到 了 攻击。

(he) (zaodao, passive marker) (past participle) (attack)

He has been attacked.

In the above examples, the “让 rang” and “给 gei” in the first two sentences can be replaced by “被 bei”. However, “遭 zao” in the last sentence cannot be replaced by “被 bei” as “遭 zao” has its specific semantic content in this sentence, which is approximately close to “meet with” in English, usually indicating some bad or unexpected encounter.

- c. The passive voice with patient subject only (without any particle word to show overtly the passive voice)

Same as English, in this type, there is no certain passive marker, but it do expresses the passive meaning.

(1) 书 已经 看 一半 了。

(book) (has been) (read) (half) (past participle)

Half of the book has been read. (the book has been read by someone)

(2) 晚饭 做好 了。

(dinner) (done) (past participle)

The dinner has been done. (the diner has been done)

B. Semantic analysis

In Chinese, the passive voice is often used in the following two situations:

- a. To emphasis the action or the do-er. E.g.

老虎 被 武松 打死 了。

(tiger)(bei)(wusong) (kill) (past participle)

The tiger was killed by Wu Song.

In this example, though the meaning of the sentence is expressed by using the passive voice, it is in fact aimed to stress the “doer”.

- b. To express some negative meanings. E.g.

到处 都找 不到 那个 男孩。

(everywhere)(all)(find) (not) (that) (boy)

The boy was nowhere to be found.

Different from English, Chinese usually use the passive voice, especially the passive voice marked by “被 bei” to express some negative meanings in Chinese, such as someone has been killed, or some bad things happened because of certain misfortune, otherwise Chinese prefer to use an active voice to describe things. For example, when we see an English sentence *the cake was eaten by me*, it would be better to translate it into Chinese as an active sentence, e.g. 我(I)把(ba, active voice marker)蛋糕(cake)吃了(eaten).

1.2.3. Summary

A. Similarities

From the above analyses, we can make some very brief summary. Firstly, we summarize the following shared similarities.

- a. Both languages have at least three types of ways to construct passive sentences. As for English, (1) the passive voice in Be/get + V-ed form, (2) the passive voice

marked by By/with-phrase and (3) the non-marked passive voice. In Chinese, (1) passive voice marked by “被 bei”, (2) the passive voice marked by functional words, and (3) the non-marked passive voice.

b. In both languages, the passive voice is particularly used at least in the following two situations: 1). When it is more important to draw our attention to the person or thing acted upon; 2). When the actor in the situation is not important.

c. Both languages employ limited lexical items to stress some semantic contents. In English, two prepositions are employed, *by* and *with*. In Chinese, there are more lexical items, usually functional words are employed, such as “被 bei”, “让 rang”, “叫 jiao”, “给 gei”, “遭 zao”.

d. In both languages, passive voice can express some ideas without mentioning the agent thus avoiding some unnecessary redundancy or satisfying some semantic needs.

B. Differences

Here are the major differences we find from our research:

a. While in English, passive voice is mainly realized by copula verb plus past participle, and thus forms such a syntactic structure such as *Be + V-ed*, in Chinese, there is no special structure that is clearly different from an active voice.

b. While many English passive voice sentences are semantically perfect, if they are transferred into Chinese, they have to be turned into Chinese active voice sentences to meet the semantic satisfaction.

c. There are more Chinese passive voice sentences which have no overt grammatical indicators to mark its passiveness. The passiveness of the sentence has to be judged from the contextual implication(s). This is consistent to the fact that Chinese is typically a thematic language and very often the meaning of a sentence relies heavily on context.

d. English tends to use more passive voices compared with Chinese. Many English passive voice sentences are semantically not passive in Chinese. For example, the English sentence: *This kind of car is made in France* (这种车是法国造的) is a typical sentence in passive voice. However, the Chinese translation is an active voice sentence.

In brief, as English and Chinese do not belong to the same family, it is normal that they differ in varied grammatical aspects, including passive voice. This provides us good reasons to launch such a small study, especially by using MT systems to detect some major problems faced by MT systems.

Chapter 2 Comparative Analysis of English and Chinese

Passive Voice in Machine Translation

From the above examples we can see that the passive voice is expressed by using varied structures or lexical items in both languages. Due to this and many other factors, the passive voice is one of the most difficult grammatical points for any machine translation system to deal with. In order to do the further research, based on this fact, we hereby moved our study into the comparative analysis of English and Chinese Passive Voice in Machine Translation.

2.1. Methodology

In order to do the comparative analysis of the passive voice in machine translation, we randomly collected 100 passive voice sentences in each language, and translated these 200 sentences by two machine translation systems to see their capacities in translating the passive voice sentences. All the translation will be manual evaluated, and all the errors will be calculated and classified.

2.1.1. Corpus

In our study, the corpus we used is the English-Chinese Parallel Corpus, built by Professor Lu Wei, he is the Co-Director in Confucius Institute at San Diego State University, USA, also, the professor in Overseas Education College at Xiamen University, China. In this web-based corpora retrieval system, there are 215713 sentences with 3290670 English words and 5370429 Chinese words. Users are allowed to search by single key words or by the combined set of key words.

To do our research, we randomly selected 100 English passive voice sentences, and 100 Chinese passive voice sentences, by using these 200 sentences and their corpus translation we built our small corpus to text the machine translation systems.

2.1.2. Machine translation system

We therefore take two commonly used machine translation systems to check their capacity for dealing with the passive voice sentences. One machine translation system is that we used is Google Translator(<https://translate.google.com/>), and the other is Baidu Translate (<http://fanyi.baidu.com/#auto/zh/>). Both these two machine translation systems are based on the method of statistical machine translation.

200 corpus passive voice sentences have been translated by both machine translation system

2.1.3. Evaluation

Due to the reason that English and Chinese belong to different language families, the linguistic errors in machine translation are very complicated. Graeme Hirst (1987) provided a classification of ambiguity in his research. He briefly divided the ambiguity into two classes: lexical and structural, according to his classification, lexical ambiguity includes “(1) polysemy: words with several related meaning. (2) homonymy: words with many independent meaning and (3) categorical ambiguity: words with varying syntactic categories.” As for the structural ambiguity, there are also three major types: “(1) attachment ambiguity, a constituent to be legally attached to more than one node; (2) gap finding and filling, a moved constituent with more than one possible location to be returned; (3) analytic ambiguity, a constituent with more than one possible analysis.

David Vilar(2006) and his group proposed an extension of the error typology presented by Llitjos(2005), shown in Figure .

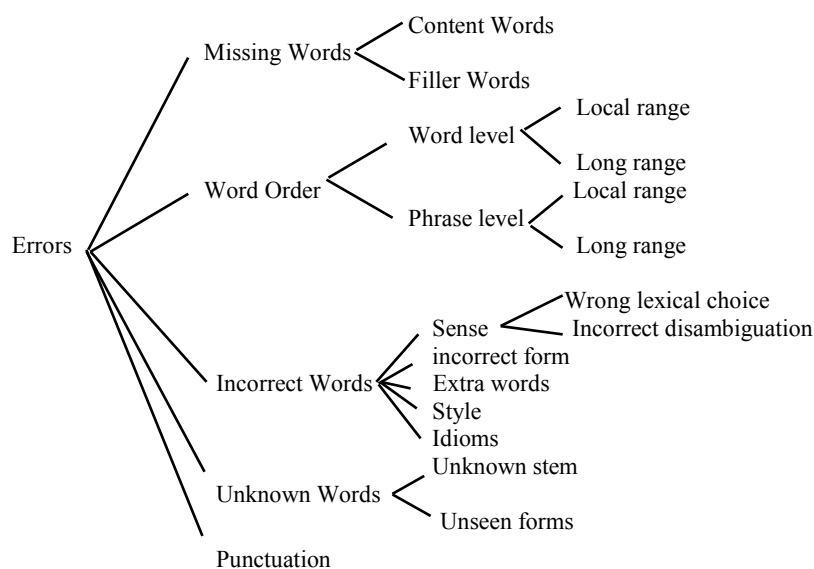


Figure 3 Classification of translation errors

Concerned to the Chinese to English direction, they introduced some new types of recording errors based on the main difference between the two languages is the position of the modifiers.” (1) In Chinese declarative sentences, the modifiers are usually located before the predicates, and the modifier of the time/place can also be at the beginning of a sentence. (2) In interrogative sentences the word order is generally the same as in declarative sentences, but in the Is-Question sentence, a Chinese key word “ma” is appended to show the tone, and in the Wh-Question sentence, the

question part is substituted by a word “shenme”. (3) Subordinate/infinitive sentences are placed after the main sentence in English but before the main sentence in Chinese.”

Guiding by the former study of error typology, the classification of error in our study have been grouped into the following types:

- A. The error made in structures, the disorder of the sentence.
- B. Polysemy: words with several related meaning; and Synonym: words with the same or similar meaning.
- C. Word order: the word order of the generated sentence cannot be translated correctly.
- D. Incorrect word: the system is unable to find the correct translation for the given word.
- E. Missing word: one or some words in the generated sentence is missing.
- F. Article: the wrong translation caused by the different usage of the article in English and Chinese.
- G. Passive voice has not been translated.
- H. Passive voice sentence has been translated into an active sentence.
- I. The problem in the translation of tense.

With these 9 error types, we calculated all the 400 sentences provided by Google and Baidu, to see how many mistakes had appeared and each mistake belongs to which error types. The results showed in the following tables. And the detailed analysis can be seen in the Appendix.

	A	B	C	D	E	F	G	H	I
Google	10	32	12	34	34	1	6		8
Baidu	13	27	7	27	28		10		2

Table 3 Error analysis: Chinese to English

	A	B	C	D	E	F	G	H	I
Google	19	45	6	15	4	7	9	2	
Baidu	13	40	3	5	10	3	17	3	

Table 4 Error analysis: English to Chinese

In these 400 translations, there are 63 sentences can be considered as the perfect translation compared with the Corpus translation, in the case of English to Chinese translation, Google had 9 perfect translation and Baidu had 21. While in the translation of Chinese to English, Google perfectly translated 10 sentences and Baidu had done 23 sentences.

2.2. Data Analysis

As we can seen from above, the general number of mistakes made by Google and Baidu is quite clear. To be specific, examples for each error types will be given in this part, so as the error concerned to the passive voice.

A. The error made in structures, the disorder of the sentence.

The Chinese source language:

这个 设备 通常 在 何种 环境下 被 使用？

(this) (equipment) (usually)(under) (what kind)(environment)(bei) (use)

In what kind of environment is this device usually used? (Golden Standard)

Baidu: This equipment is usually used in what kind of environment?

Goolge: This device is usually used under what circumstances?

From this example we can see that while dealing with the source sentence, both Google and Baidu made a mistake with the sentence order of the English interrogative.

The English source language:

The problem must be dealt with by appropriate means at an appropriate time.

这个 问题 必须 在 适当的 时候 以 适当的 方式 予以处理。

(this)(problem) (must)(in) (appropriate) (time)(by)(appropriate)(means)(deal)

Baidu:

这个 问题 必须 处理 在 适当的 时间 以 适当的 方式。

(this)(problem) (must)(deal)(in) (appropriate) (time)(by)(appropriate)(means)

Google:

这个 问题 必须在 适当的 时间进行处理 通过 适当的 方式。

(this)(problem) (must)(in) (appropriate) (time)(deal) (by) (appropriate)(means)

In the translation of this sentence, the by-phrase in English sentence should be put forward in Chinese translation, however, both two system failed.

B. Polysemy: words with several related meaning; and Synonym: words with the same or similar meaning.

This type of error appears the most in our study, since in English and Chinese, one word may have several meanings, also some words may sometimes share the same meaning, it is easy for machine to choose a synonym words compared with the corpus translation, for example:

The English source sentence:

The whole dictionary has been keyboarded into the computer.

整部 字典 已 被 输 入 电脑。

(whole) (dictionary)(has been) (bei)(keyboarded)(into)(computer)

Baidu: 整部字典已被输入电脑。

Google: 整个字典已被输入到计算机中。

In these two translations, the word “computer” has been translated into “电脑” and “计算机”, they all mean the same.

C. Word order: the word order of the generated sentence cannot be translated correctly.

The English source sentence:

I was surprised by how easy it was to fly, considering I'd never flown a jet before.

我 发现 驾驶 飞机 非常容易, 感到 非常 吃惊。 我此前

(I) (found)(drive)(plane)(very easy),(feel)(very)(surprise)。 (I)(before)

从未 开过 喷射飞机。

(never)(flown) (jet)

Baidu:

我被 它 是有 多 容易 飞 惊讶, 考虑到 我从未 飞过 喷射之前。

(I)(bei)(it) (is) (how) (easy)(fly)(surprise), (consider)(I)(never)(flown)(jet)(before)

Google:

我被 它 多么 容易 飞 惊讶, 考虑到 我 从来没有 坐过 飞机 喷气式。

(I)(bei)(it)(how) (easy)(fly)(surprise), (consider)(I)(never) (flown) (plane)(jet)

In this translation, the word “jet” should be translated into the Chinese noun phrase “喷气式飞机”, however, in Google translation, it translated this word into “飞机喷气式” with a word order error. In this case, Baidu only translated the word “jet” into a single Chinese word “喷气式” it should be considered as the error type D, Incorrect word: the system is unable to find the correct translation for the given word.

E. Missing word: one or some words in the generated sentence is missing.

The English corpus sentence:

The whole area was ravaged by forest fires.

整个 地区 都 被 森林 大火 烧毁。

(whole) (area)(all)(bei)(forest)(fires)(ravage)

Google: 整个 地区 都 被 森林 大火。

(whole) (area)(all)(bei)(forest)(fires)

Baidu: 整个 地区 都 被 森林 大火。

(whole) (area)(all)(bei)(forest)(fires)

In this case, the verb “ravage” has not been translated by neither system, which makes the two translation as wrong translations in types of the missing words error.

F. Article: the wrong translation caused by the different usage of the article in English and Chinese.

The English source sentence:

The pilot was grounded for 3 days.

该 飞行员 被 停飞 3 天。

(the) (pilot)(bei)(ground) 3 (days)

Google:

飞行员 被 停飞 3 天。

(pilot)(bei)(ground) 3 (days)

Baidu:

飞行员被停飞 3 天。

(pilot)(bei)(ground) 3 (days)

In this sentence, the article “the” can be translated into Chinese as “该”, however, in Chinese, if the noun has not been mentioned in pervious phrases, then this article can be ignored. So in the translation of Baidu and Goolge, they all ignored the article compared with the corpus translation.

G. Passive voice has not been translated.

Concerned to the study of the passive voice, this type of error has been pointed out together with the error type H.

We portrayed an animal released by humans that was a lie.

我们刻画 了一头 被 人类 释放的 动物, 然而 这 是一个 谎言。

(we)(portray)(le)(an)(bei)(human)(release) (animal)(however)(this)(is) (a) (lie)

Google:

我们 刻画 了 人类 释放的 动物，这 是一个 谎言。

(we)(portray)(le)(human)(release) (animal)(this)(is) (a) (lie)

Baidu:

我们 描绘 人类， 是一个 谎言 释放动物。

(we)(portray) (human) (is) (a) (lie) (release) (animal)

To translate this sentence, Google did a better job than Baidu, but still it is a completely wrong sentence, it did not translated the English passive voice correctly, the translation is not a Chinese passive voice sentence at all, in this way, the meaning of the whole sentence changed. While Baidu not only ignored the English passive voice, but also made a mistake in sentence order.

H. Passive voice sentence has been translated into an active sentence.

The English source sentence:

If you are asked personal questions, you need not answer them.

如果有人 问 你的 私事， 你 尽 可以不 答。

(if) (someone)(ask)(your)(personal staff) (you)(all) (can)(no) (answer)

Google:

如果 你 被 要求 私人 问题， 你 不 用 回答。

(if) (you)(bei)(ask)(personal question) (you) (no) (need)(answer)

Baidu:

如果有人 问 你的 个人 问题， 你 不 必 回答他们。

(if) (someone)(ask)(your)(personal question) (you)(no) (need)(answer) (them)

In this case, the passive voice sentence has been translated into a Chinese active voice sentence by both Corpus sentence and Baidu. While Google translated the sentence into the passive voice sentence, still remains right.

3. Conclusion.

In our comparative analysis of the English and Chinese passive voice in machine translation, we mainly discussed the differences and the similarities between the syntactic structure and semantic aspect of the passive voice in these two languages. Firstly, we summarize the following shared similarities.

A. Both languages have at least three types of ways to construct passive sentences. As for English, (1) the passive voice in *Be/get + V-ed* form, (2) the passive voice marked by *By/with*-phrase and (3) the non-marked passive voice. In Chinese, (1) passive voice marked by “被 *bei*”, (2) the passive voice marked by functional words, and (3) the non-marked passive voice.

B. In both languages, the passive voice is particularly used at least in the following two situations: 1). When it is more important to draw our attention to the person or thing acted upon; 2). When the actor in the situation is not important.

C. Both languages employ limited lexical items to stress some semantic contents. In English, two prepositions are employed, *by* and *with*. In Chinese, there are more lexical items, usually functional words are employed, such as “被 *bei*”, “让 *rang*”, “叫 *jiao*”, “给 *gei*”, “遭 *zao*”.

D. In both languages, passive voice can express some ideas without mentioning the agent thus avoiding some unnecessary redundancy or satisfying some semantic needs.

Secondly, we summarized the major differences that we found from our research:

A. While in English, passive voice is mainly realized by copula verb plus past participle, and thus forms such a syntactic structure such as *Be + V-ed*, in Chinese, there is no special structure that is clearly different from an active voice.

B. While many English passive voice sentences are semantically perfect, if they are transferred into Chinese, they have to be turned into Chinese active voice sentences to meet the semantic satisfaction

C. There are more Chinese passive voice sentences which have no overt grammatical indicators to mark its passiveness. The passiveness of the sentence has to be judged from the contextual implication(s). This is consistent to the fact that Chinese is typically a thematic language and very often the meaning of a sentence relies heavily on context.

D. English tends to use more passive voices compared with Chinese. Many English passive voice sentences are semantically not passive in Chinese. For example, the English sentence: *This kind of car is made in France* (这种车是法国造的) is a typical sentence in passive voice. However, the Chinese translation is an active voice sentence.

Based on its result, we tested 200 passive voice sentences in typical passive form with two machine system. In this way, we find out that the major machine translation error types can be classified as:

- A. The error made in structures, the disorder of the sentence.
- B. Polysemy: words with several related meaning; and Synonym: words with the same or similar meaning.
- C. Word order: the word order of the generated sentence cannot be translated correctly.
- D. Incorrect word: the system is unable to find the correct translation for the given word.
- E. Missing word: one or some words in the generated sentence is missing.
- F. Article: the wrong translation caused by the different usage of the article in English and Chinese.
- G. Passive voice has not been translated.
- H. Passive voice sentence has been translated into an active sentence.
- I. The problem in the translation of tense.

In future study, we will try to evaluate all the results automatically, so that we could have a more scientific result. And the common situation which leads the wrong passive voice translation will be find out.

References

- Andrew Methven, *Voice Changes in Translation - A Comparative Study of Active and Passive Voice in Chinese and English*, 2006.
<http://www.translationdirectory.com/articles/article1457.php>
- Chomsky, N, *Syntactic Structures*. The Hague: Oxford University Press, 1957.
- Chaofen Sun, *Chinese: A Linguistic Introduction*. Cambridge University Press, 2006.
- Claudia Ross and Jing-heng Sheng Ma, *Modern Mandarin Chinese Grammar-A Practical Guide*. Routledge, 2006.
- Font-Llitjós, Ariadna & Carbonell, Jaime. *The Translation Correction Tool: English-Spanish user studies*. LREC, 2004.
- M.A.K.Halliday. *An Introduction to Functional Grammar*. London: Hodder Education Publisher, 2004.
- Huang, C. T. 1999. *Chinese Passives in Comparative Perspective*. Tsing Hua Journal of Chinese Studies.
- Kenneth, W. *The Columbia Guide to Standard American English*. New York: Columbia University Press, 1993
- Leech, *A Communicative Grammar of English*, Pearson Education Limited, 1975.
- McEnery, A. M. and R.Xiao, *Passive constructions in English and Chinese: A corpus-based contrastive study*. In: *Corpus Linguistics*, 14-17 Jul 2005, Birmingham, UK.
- Po-Ching Yip, *Chinese; A Comprehensive Grammar*. Routledge Ltd, 2004.
- Quirk, et al. *A Grammar of Contemporary English*. London: London Group Ltd. 1985.
- Yuzhi Shi, *The Establishment of modern Chinese grammar: the formation of the resultative construction and its effects*. John Benjamins Publishing, 2002.
- Chaofen Sun, *Chinese: A Linguistic Introduction*. Cambridge University Press, 2006.
- Halliday. *An Introduction to Functional Grammar*. London: Hodder Education Publisher, 2004.
- Leech, *A Communicative Grammar of English*, Pearson Education Limited, 1975.

Zhang Yufeng, *The Study of the Mordern Chinese*, 《现代汉语研究》, Xue lin Press, 2003.

Wenfei Chang, Zhiying Liu, and Yaohong Jin , *Research on Semantic-Based Passive Transformation in Chinese-English Machine Translation* , Institute of Chinese Information Processing, Beijing Normal University, Beijing

Zhang Daozhen, *Modern Chinese Grammar*, 《现代汉语语法》, Beijing University Press, 1998.

English and Chinese Parallel Corpus, Luwei, Confucius Institute at San Diego University, USA.

<http://www.luweixmu.com/ec-corpus/index.htm>

Appendix1

Chinese passive voice and corpus translation

Source-Sentences (from Lu Wei corpus)		Target-Sentence (from Lu Wei corpus) [Golden Standard]
1	当然了，这样还是可能会被滥用。	Of course, this can be abused.
2	这个设备通常在何种环境下被使用？	In what kind of environment is this device usually used?
3	这些现象没有一个应该被看做错误。	None of these occurrences should be considered as errors.
4	用户不喜欢被问。	Users don't like to be asked questions.
5	设计在编码之前就应该被评估。	Design should be evaluated before the coding begins.
6	显然，打印动作让程序以为文档又被修改了。	Evidently the act of printing caused the program to think the document had changed.
7	在数月之内，大多数对贸易的战时管制措施都被放弃了。	Within months, most of the wartime controls on trading were abandoned.
8	不到三年，它就被卖到墨西哥城冒险王国游乐园。	Less than three years,it had been sold to Reino Aventura amusement park in Mexico City.
9	你的回答将被用来制作一个为你的有限证券确定策略的机密网页。	Your answers will be used to create a confidential webpage identifying strategies for your restricted securities.
10	窗被打碎, 大树被连根拔起。	Windows were broken, trees were uprooted.

11 只要广告做得好，谁知道人们都会被说服去相信些什么呢？

With the right advertising,who knows what people could be persuaded to believe?

12 未经批准，协议不能被实施。

Without ratification, the agreement cannot be implemented.

13 那时妇女被拒给选举权。

Women were then denied the right to vote.

14 被她们的丈夫或前夫强暴的妇女往往不向警察告发。

Women who are attacked by their husbands or ex-husbands often fail to report them to the police.

15 工人们应被允许公开讨论他们所有的困难。

Workers should be allowed full ventilation of all their difficulties.

16 您的包裹在邮寄过程中被不幸损坏了。

Your parcel was unfortunately damaged in the mail.

17 它被划得很厉害。

It's badly marked.

18 我认为我们都被赋予了同等权利和机会。

I think we are all entitled to the same rights and opportunities.

19 这个人去了另外一家公司，他被带进经理的房间。

The man went to another office and was shown into the manager's room.

20 只要被邀请，他就会去，除非他病了。

Whenever he is invited, he goes, unless he is ill.

21 她被我的这个想法吓坏了。

She was terrified by my idea.

22 夜里我被划火柴的声音吵醒。

During the night I was woken up by the sound of a match being struck.

23 幸运的是这个女孩恰巧被路过的一个人救了。

Fortunately the girl was saved by someone who happened to pass by.

24 当被告知发生了什么事情的时候，他悲痛欲绝。

When he was told what had happened he broke down.

25	12月前的几个月，商店橱窗就被圣诞树装饰起来。	Shop windows are decorated with Christmas trees some months before December.
26	通常他们早早地就被送上床睡觉了，这样，他们的父母就可以把礼物准备好。	Usually they are sent to bed early so that their parents can get the presents ready.
27	对你而言，没有什么工作是微不足道的，你常常准备非常努力地工作，尽管你讨厌被常规所束缚。	No job is too small for you and you're often prepared to work extremely hard, though you hate being bound by routine.
28	如果你是那里的一个陌生人，举止又引起了她们的怀疑，那么你很有可能被拦住问几个问题，诸如你在找谁、你从哪里来。	If you are a stranger there and your behaviour arouses their suspicion, you are likely to be stopped for questions, such as whom you are looking for and where you are from.
29	7月28号，王终于被推进手术室。	On July 28, Wang was finally wheeled into the operation room.
30	老鼠突然跳出水面，看上去 被嚇得浑身哆嗦。	The Mouse gave a sudden leap out of the water, and seemed to quiver all over with fright.
31	妈妈给她糖果的时候，她抓了两把，被她母亲小声提醒后都没说句“谢谢”。	When Mum offered her some sweets, she grabbed two handfuls, and refused to say a "Thank you!" when gently reminded by her mother.
32	起义被残酷地镇压下去了。	The uprising was brutally put down.
33	如果防务开支被削减，美国经济会更易于管理。	The us economy would be more manageable if defense spending were reduced.
34	这些非洲部落的土话没能被记载下来。	The vernaculars of these African tribes have never been written down.
35	景色被浓雾遮住了。	The view was obliterated by the fog.
36	这个村子在一个月前被毁灭，61个人被杀。	The village had been obliterated a month earlier, and 61 people had been killed.

37	游客们被纪念碑的雄伟所感动。	The visitors were touched by the grandness of the monument.
38	维生素 D 不光帮助人体吸收钙，而且现在被认为在骨骼的修复方面起着重要的作用。	The vitamin not only helps the body absorb calcium, but it's now thought to play a critical role in bone repair.
39	对被不公正解雇一事工人们表示愤慨。	The workers voiced their indignation at being unfairly dismissed.
40	两个镜头被审查员剪掉了。	Two scenes were cut by the censor.
41	如果你想被晋升，你就必须使人们承认你的权威。	You have to assert yourself if you want to be promoted.
42	你必需确保你的狗被接种了防病疫苗。	You must make sure that your dog is vaccinated against illness.
43	你最好跑否则你会被落在后面。	You'd better run or you're going to be left behind.
44	在这儿倒垃圾要被罚款的。	You'll be fined if you dump here.
45	如果你不想让这些小树被风刮倒的话，你就得把它们埋深一些。	You'll need to dig those young tree in a bit deeper, unless you want the wind to blow down them over
46	你的意见已被记载并将对此作调查。	Your complaint have be recorded and will be investigated.
47	您原有的许可证似乎无效或已被损坏。	Your existing license seems to be invalid or corrupt.
48	我们正被跟踪。	We are just being followed.
49	我们被禁止在校园内抽烟。	We are prohibited from smoking on school grounds.

50 我们准时到达了机场，不料却被告知我们的航班被取消了。

51 我们会为此而被开除的。

52 我们有可能被敌人俘虏。

53 我们意识到我们全部谈话已被记录。

54 我们被要求削减预算。

55 我们深深被那感伤的电影所感动。

56 我们被大雾困在伦敦机场达十二小时。

57 当抹香鲸生病时，它会产生出一种脂肪物质，被称为龙涎香。

58 当我听到我的朋友们谈论我时，我很生气感到被出卖了。

59 当轮到她走过棺材时，她被一种强烈的厌恶感控制住了，并退了回去。

60 中国则被美视为21世纪初在东南亚乃至亚洲的最大竞争对手。

61 中国是否同梵蒂冈建交的问题，成为朱镕基访意期间被传媒询问的焦点。

We arrived at the airport on time, only to be told our flight was canceled

We can be struck off the roll for that.

We might get taken prisoner by the enemy.

We realized that our entire conversation had been recorded.

We were asked to pare down our budget.

We were deeply touched by the sentimental movie.

We were fogbound at London Airport for 12 hours.

When a sperm whale is sick, it may produce a fatty substance called ambergris.

When I heard what my friends had said about me I felt angry and betrayed.

When it was her turn to go past the coffin, she was seized by a strong feeling of revulsion and stepped back.

China was regarded by the United States as its greatest competitor in Southeast Asia and even in Asia at the beginning of the 21st century.

Whether China is going to establish diplomatic ties with the Vatican was a focal point of the media's inquiries during Zhu Rongji's visit to Italy.

62	那档电视节目插进的商业广告太多了, 不断被打断。	The TV show was interrupted by too many commercials.
63	会议被恶劣的天气耽搁了。	The meeting was delayed by the foulness of the weather.
64	屋子里的每个人都被音乐的欢快所感染。	The merriness of the music affected everyone in the room.
65	美国中西部地区常被喻为美国的粮仓。	The Midwest is often called the granary of the US.
66	矿坑坍塌时, 矿工被活活埋在里面了。	The miners were buried alive when the tunnel collapsed.
67	月亮被云遮住了。	The moon was obscured by clouds.
68	那个电影明星坐在咖啡桌旁, 被漂亮的姑娘们围着。	The movie star sat at a cafe table, surrounded by pretty girls.
69	控告他犯有谋杀罪是令人相信, 但没有被证实。	The murder charges against him were believable, but could not be proved.
70	新来的男孩在校老是被人欺侮。	The new boy was constantly bullied at school.
71	叛乱在几天之内就被镇压下去了。	The revolt was suppressed in a couple of days.
72	稻田被淹没了。	The rice fields were flooded.
73	整个地区一直被指定为再发展区。	The whole area has been designated as a redevelopment zone.
74	这些新规定已经被懦弱的经理们利用来避免雇用黑人。	The new requirements have been used by cowardly managers to avoid hiring blacks.
75	总统被暗杀的消息震惊了全国。	The news of the president's murder rocked the nation.

76	夜莺在古代被选为歌唱家的最高典范。	The nightingale was anciently selected as the highest example of a perfect singer.
77	罪犯被送到教养院。	The offender was sent to a correctional facility.
78	这军官被降为士兵。	The officer was reduced to the ranks.
79	老太太的话不时被外面的吵闹声所打断。	The old lady's words were punctuated by noise from outside.
80	这家工厂的旧机器迟早将被淘汰。	The old machinery in this factory will be phased out sooner or later.
81	那个老办法已被淘汰。	The old method has gone out of use.
82	老妇人被活活饿死。	The old woman died of starvation.
83	联机目录被细分成四个主要部分, 每部分包括伯克利学术经验的不同方面。	The online catalog is subdivided into four primary sections, each addressing different aspects of the academic experience at Berkeley.
84	那政权被推翻以后, 有一段时期是无政府状态。	The overthrow of the regime was followed by a period of anarchy.
85	这幅画被已故的温莎公爵夫人捐赠给了那所大学。	The painting was donated to the university by the late Duchess of Windsor.
86	议会制系统已被证明特别适应于改变的环境。	The parliamentary system has proved highly adaptable to changing circumstances.
87	那位党的领导人已被其对手取而代之。	The party leader has been supplanted by his rival.
88	乘客及船员都被多佛尔的救生艇救出。	The passengers and crew were brought off by the Dover lifeboat.
89	病人被接上了监测器。	The patient was connected to the monitor.

90	增加的工资会被通货膨胀所抵销。	The pay-raise will be offset by inflation.
91	那电话亭被一群少年歹徒故意破坏了。	The phone booth was vandalized by a gang of youths.
92	这个医生被控告接受了药商的值得怀疑的资金。	The doctor was accused of receiving questionable funds from a druggist.
93	该计划现已被搁置, 不大可能重新启用。	The plan has now been dropped, with little hope of resurrection.
94	飞机被闪电击中时正朝东北方向飞去。	The plane was traveling in a northeasterly direction when it was hit by lightning.
95	这位诗人也将作为幽默作家和讽刺家被人们怀念。	The poet will also be remembered as a humorist and a satirist.
96	那名政治犯在受秘密审判后被处决了。	The political prisoner was executed after a secret trial.
97	那可怜的小狗被人遗弃了。	The poor little puppy had been abandoned.
98	那个唱流行歌曲的歌手被一群青年团团围住。	The pop singer was mobbed by teenagers.
99	食物中毒的可能性已被排除。	The possibility of food poisoning has been excluded.
100	马铃薯被削了皮并切成了块。	The potatoes were pared and cut into chunks.

Appendix 2

Chinese passive voice and Google translation

	Source sentences	Google Translation	Error Type
1	当然了，这样还是可能会被滥用。	Of course, this is still likely to be abused.	B
2	这个设备通常在何种环境下被使用？	This device is usually used under what circumstances?	A
3	这些现象没有一个应该被看做错误。	None of these phenomena should be seen as an error.	
4	用户不喜欢被问。	Users do not like to be asked.	
5	设计在编码之前就应该被评估。	Design before coding should be evaluated.	A
6	显然，打印动作让程序以为文档又被修改了。	Obviously, print the program to think the document has been modified.	E
7	在数月之内，大多数对贸易的战时管制措施都被放弃了。	Within a few months, most of the wartime controls on trade have been abandoned.	I
8	不到三年，它就被卖到墨西哥城冒险王国游乐园。	Less than three years, it was sold to Mexico City Adventure Kingdom Amusement Park.	I
9	你的回答将被用来制作一个为你的有限证券确定策略的机密网页。	Your answers will be used to make a definite strategy for your limited securities classified pages.	C, D
10	窗被打碎，大树被连根拔起。	Windows were broken, trees were uprooted.	

11	只要广告做得好，谁知道人们都会被说服去相信些什么呢？	As long as the ads do well, who knows what people will be persuaded to believe in something?	D
12	未经批准，协议不能被实施。	Without approval, the agreement can not be implemented.	B
13	那时妇女被拒给选举权。	Then refused to vote for women.	A, D
14	被她们的丈夫或前夫强暴的妇女往往不向警察告发。	Raped women their husbands or ex-husbands tend not to inform the police.	A, E, G
15	工人们应被允许公开讨论他们所有的困难。	Workers should be allowed to openly discuss all their difficulties.	
16	您的包裹在邮寄过程中被不幸损坏了。	Your package during postage was unfortunately damaged.	B, C
17	它被划得很厉害。	It was badly planned.	D
18	我认为我们都被赋予了同等权利和机会。	I think we have been given the same rights and opportunities.	B, I
19	这个人去了另外一家公司，他被带进经理的房间。	This man went to another company, he was brought into the manager's room.	B
20	只要被邀请，他就会去，除非他病了。	As long as be invited, he would go, unless he is sick.	B
21	她被我的这个想法吓坏了。	She was my idea terrified.	E, G
22	夜里我被划火柴的声音吵醒。	At night I was awakened by the sound plan matches.	D, E
23	幸运的是这个女孩恰巧被路过的一个人救了。	Fortunately, this one happens to be passing girl saved.	A, D, E
24	当被告知发生了什么事情的时候，他悲痛欲绝。	When told what had happened, he was distraught.	E

25	12月前的几个月，商店橱窗就被圣诞树装饰起来。	A few months before December, the Christmas tree was decorated shop windows up.	C, D, E, G
26	通常他们早早地就被送上床睡觉了，这样，他们的父母就可以把礼物准备好。	Usually they were sent to bed early on, so that their parents can put gift ready.	B
27	对你而言，没有什么工作是微不足道的，你常常准备非常努力地工作，尽管你讨厌被常规所束缚。	For you, no work is insignificant, you often prepared to work very hard, even though you hate to be bound by the rule.	E
28	如果你是那里的一个陌生人，举止又引起了她们的怀疑，那么你很有可能被拦住问几个问题，诸如你在找谁、你从哪里来。	If you are a stranger there, their behavior has aroused suspicion, then you are likely to be stopped by to ask a few questions, such as you lookin ', Where are you from.	D, E
29	7月28号，王终于被推进手术室。	July 28, Wang was finally pushed the operating room.	E
30	老鼠突然跳出水面，看上去 被嚇得浑身哆嗦。	Mouse suddenly out of the water, looked scared trembling.	E, G
31	妈妈给她糖果的时候，她抓了两把，被她母亲小声提醒后都没说句“谢谢”。	Mom gave her sweets, she grabbed two, after being reminded that she did not tell the mother whispered, "Thank you."	C, E, G
32	起义被残酷地镇压下去了。	The uprising was brutally put down.	
33	如果防务开支被削减，美国经济会更易于管理。	If defense spending is cut, the U.S. economy will be easier to manage.	B
34	这些非洲部落的土话没能被记载下来。	These African tribal dialect not be written down.	B, E
35	景色被浓雾遮住了。	View was fog covered.	B
36	这个村子在一个月前被毁灭，61个人被杀。	The village was destroyed a month ago, 61 people were killed.	B, I

37	游客们被纪念碑的雄伟所感动。	Visitors were impressed by the majestic monument.	B
38	维生素 D 不光帮助人体吸收钙，而且现在被认为在骨骼的修复方面起着重要的作用。	Vitamin D is not only to help the body absorb calcium, and is now considered to play an important role in terms of bone repair.	B
39	对被不公正解雇一事工人们表示愤慨。	For being unfair dismissal workers expressed outrage.	E, D
40	两个镜头被审查员剪掉了。	Two examiners lens is cut off.	D, E
41	如果你想被晋升，你就必须使人们承认你的权威。	If you want to be promoted, you have to make people recognize your authority.	D
42	你必需确保你的狗被接种了防病疫苗。	You must ensure that your dog has been vaccinated against disease prevention vaccine.	B
43	你最好跑否则你会被落在后面。	You better run or you will be left behind.	B
44	在这儿倒垃圾要被罚款的。	Here refuse to be fine.	D, E
45	如果你不想让这些小树被风刮倒的话，你就得把它们埋深一些。	If you do not want to let these trees were blown down, you have to put some of their depth.	C, D
46	你的意见已被记载并将对此作调查。	Your opinion has been documented and will be investigating this.	D
47	您原有的许可证似乎无效或已被损坏。	Your original license appears to be invalid or has been damaged.	B
48	我们正被跟踪。	We are being tracked.	B

49	我们被禁止在校园内抽烟。	We are prohibited from smoking on campus.	B
50	我们准时到达了机场，不料却被告知我们的航班被取消了。	We arrive at the airport, only to be told our flight was canceled.	E
51	我们会为此而被开除的。	To this end, we will be expelled.	D
52	我们有可能被敌人俘虏。	We are likely to be captured by the enemy.	B
53	我们意识到我们全部谈话已被记录。	We realized that we all talk has been recorded.	D
54	我们被要求削减预算。	We were asked to budget cuts.	B
55	我们深深被那感伤的电影所感动。	We were deeply touched by the sentimental movie.	
56	我们被大雾困在伦敦机场达十二小时。	We were trapped up to twelve hours of fog at London airports.	D, E
57	当抹香鲸生病时，它会产生出一种脂肪物质，被称为龙涎香。	When the sperm whale is sick, it will produce a fatty substance called ambergris.	F
58	当我听到我的朋友们谈论我时，我很生气感到被出卖了。	When I hear my friends talk about me when I'm angry felt betrayed.	C, D, E
59	当轮到她走过棺材时，她被一种强烈的厌恶感控制住了，并退了回去。	When it was her turn through the the coffin, she was under control of a strong sense of disgust, and pull back.	D, E
60	中国则被美视为21世纪初在东南亚乃至亚洲的最大竞争对手。	US-China were seen as the biggest competitor in the early 2000s in Southeast Asia and Asia.	D
61	中国是否同梵蒂冈建交的问题，成为朱镕基访意期间被传媒询问的焦点。	Vatican established diplomatic relations with the question whether China has	C, D, E, G

		become during Zhu Rongji's visit to Italy is asking the media focus.	
62	那档电视节目插进的商业广告太多了, 不断被打断。	That TV show too many commercials inserted, constantly being interrupted.	C, D, E
63	会议被恶劣的天气耽搁了。	The meeting was delayed for bad weather.	D
64	屋子里的每个人都被音乐的欢快所感染。	Everyone in the room was infected by cheerful music.	B
65	美国中西部地区常被喻为美国的粮仓。	Midwest is often hailed as America's breadbasket.	B
66	矿坑坍塌时, 矿工被活活埋在里面了。	When the mine collapsed, the miners were buried alive inside.	B
67	月亮被云遮住了。	The moon was obscured by clouds.	
68	那个电影明星坐在咖啡桌旁, 被漂亮的姑娘们围着。	That movie star sitting in a coffee table, surrounded by pretty girls.	B, I
69	控告他犯有谋杀罪是令人相信, 但没有被证实。	Charged him with murder is convincing, but has not been confirmed.	D
70	新来的男孩在校老是被人欺侮。	The new boy in school who always bullied.	C, D, E
71	叛乱在几天之内就被镇压下去了。	Within a few days the rebellion was crushed.	B
72	稻田被淹没了。	Rice fields were flooded.	
73	整个地区一直被指定为再发展区。	The entire area has been designated as a redevelopment area.	B
74	这些新规定已经被懦弱的经理们利用来避免雇用黑人。	These new regulations have been cowardly managers use to avoid hiring blacks.	C, E

75	总统被暗杀的消息震惊了全国。	The president was assassinated news shocked the country.	A, E
76	夜莺在古代被选为歌唱家的最高典范。	Nightingale was selected as the highest example of ancient singer.	C, D
77	罪犯被送到教养院。	The offender was sent workhouse.	E
78	这军官被降为士兵。	This officer was demoted soldiers.	B
79	老太太的话不时被外面的吵闹声所打断。	From time to time the old lady's words were interrupted by outside noise.	B
80	这家工厂的旧机器迟早将被淘汰。	Old machines in this factory will be phased out sooner or later.	I
81	那个老办法已被淘汰。	The old way has been eliminated.	B
82	老妇人被活活饿死。	The old woman was starved to death.	B
83	联机目录被细分成四个主要部分, 每部分包括伯克利学术经验的不同方面。	Online catalog is subdivided into four main parts, each including different aspects of the academic experience at Berkeley.	
84	那政权被推翻以后, 有一段时期是无政府状态。	After the regime was overthrown by a period of anarchy.	A, C, D, E
85	这幅画被已故的温莎公爵夫人捐赠给了那所大学。	This painting by the late Duchess of Windsor's donated to the university.	A, E
86	议会制系统已被证明特别适应于改变的环境。	Parliamentary systems have proven to be particularly adapted to the changed environment.	B
87	那位党的领导人已被其对手取而代之。	Party leaders who have been replaced by their opponents.	D, I

88	乘客及船员都被多佛尔的救生艇救出。	The passengers and crew were rescued Dover lifeboat.	E
89	病人被接上了监测器。	The patient was connected to a monitor.	I
90	增加的工资会被通货膨胀所抵销。	The wage increase will be offset by inflation.	B
91	那电话亭被一群少年歹徒故意破坏了。	That phone booth by a group of juvenile criminals deliberately destroyed.	A, D, E
92	这个医生被控告接受了药商的值得怀疑的资金。	The doctor was charged with accepting a questionable funding of drug dealers.	D, E
93	该计划现已被搁置, 不大可能重新启用。	The plan has now been shelved, is unlikely to be re-enabled.	D
94	飞机被闪电击中时正朝东北方向飞去。	Moving in the northeast direction and flew the aircraft was struck by lightning.	A, D, E
95	这位诗人也将作为幽默作家和讽刺家被人们怀念。	The poet will also serve as a humorist and satirist been missed.	E
96	那名政治犯在受秘密审判后被处决了。	That political prisoners executed after a secret trial in a subject.	D, E
97	那可怜的小狗被人遗弃了。	The poor dog was abandoned.	I
98	那个唱流行歌曲的歌手被一群青年团团围住。	That sing pop singer was surrounded by a group of young people.	D
99	食物中毒的可能性已被排除。	The possibility of food poisoning has been ruled out.	B
100	马铃薯被削了皮并切成了块。	Potatoes were peeled and cut into pieces.	B

Appendix 3

Chinese passive voice and Baidu translation

	Source Sentence	Baidu Translation	Error Type
1	当然了，这样还是可能会被滥用。	Of course, this can be abused.	
2	这个设备通常在何种环境下被使用？	This equipment is usually used in what kind of environment?	A
3	这些现象没有一个应该被看做错误。	None of these occurrences should be considered as errors.	
4	用户不喜欢被问。	The user didn't love asked.	E
5	设计在编码之前就应该被评估。	The design should be evaluated before the coding begins.	I
6	显然，打印动作让程序以为文档又被修改了。	Obviously, the print action let the program thought the document had changed.	D, E
7	在数月之内，大多数对贸易的战时管制措施都被放弃了。	Within a few months, most of the trade control measures were abandoned in wartime.	A
8	不到三年，它就被卖到墨西哥城冒险王国游乐园。	Less than three years, it was sold to Mexico City Adventure amusement park.	B
9	你的回答将被用来制作一个为你的有限证券确定策略的机密网页。	Your answers will be used to make a limited stock of your confidential Webpage determination strategy.	D

10	窗被打碎, 大树被连根拔起。	Windows were broken, trees were uprooted.	
11	只要广告做得好, 谁知道人们都会被说服去相信些什么呢?	As long as the ads do well, who know people can be persuaded to believe what?	C, E
12	未经批准, 协议不能被实施。	Without approval, the agreement cannot be implemented.	B
13	那时妇女被拒给选举权。	Women were then denied the right to vote.	
14	被她们的丈夫或前夫强暴的妇女往往不向警察告发。	By their husband or ex husband raped women tend not to tell the police.	A, D
15	工人们应被允许公开讨论他们所有的困难。	Workers should be allowed full ventilation of all their difficulties.	
16	您的包裹在邮寄过程中被不幸损坏了。	Your package in the mail process was unfortunately damaged.	A
17	它被划得很厉害。	It drawn very badly.	E
18	我认为我们都被赋予了同等权利和机会。	I think we have been given equal rights and opportunities.	B
19	这个人去了另外一家公司, 他被带进经理的房间。	The man went to another company, he was brought into the manager's room.	B
20	只要被邀请, 他就会去, 除非他病了。	If invited, he will go to, unless he is ill.	A, D
21	她被我的这个想法吓坏了。	She was frightened by the idea of my.	D
22	夜里我被划火柴的声音吵醒。	During the night I was awakened by the sound of a match.	B
23	幸运的是这个女孩恰巧被路过的一个人救了。	Fortunately one pass by the girl happens to be saved.	C, D, E, G

24	当被告知发生了什么事情的时候，他悲痛欲绝。	When informed of what had happened, he was.	E
25	12月前的几个月，商店橱窗就被圣诞树装饰起来。	A few months before the December, the shop windows is decorated Christmas tree.	D, E
26	通常他们早早地就被送上床睡觉了，这样，他们的父母就可以把礼物准备好。	Usually they are sent to bed early, so, their parents can give the gift ready.	D
27	对你而言，没有什么工作是微不足道的，你常常准备非常努力地工作，尽管你讨厌被常规所束缚。	To you, not what is not worth mentioning, you often prepared to work very hard,even though you hate bound by conventional.	D, E
28	如果你是那里的一个陌生人，举止又引起了她们的怀疑，那么你很有可能被拦住问几个问题，诸如你在找谁、你从哪里来。	If you are a stranger there, manners and caused their suspicion, so you are likely to be stopped to ask a few questions, such as who are you looking for, where do you come from.	D
29	7月28号，王终于被推进手术室。	On July 28th, Wang was finally into the operation room.	E
30	老鼠突然跳出水面，看上去 被嚇得渾身哆嗦。	Mouse suddenly jump out of the water, look scared trembling.	G
31	妈妈给她糖果的时候，她抓了两把，被她母亲小声提醒后都没说句“谢谢”。	Mother gave her a candy when, she took two, her mother quietly reminded could not say "thank you".	A, C, D, E, G
32	起义被残酷地镇压下去了。	The uprising was brutally put down.	
33	如果防务开支被削减，美国经济会更易于管理。	If the defense spending cuts, USA economy will be more manageable.	
34	这些非洲部落的土话没能被记载下来。	These Africa tribal dialect has never been written down.	D
35	景色被浓雾遮住了。	The view was obliterated by the fog.	B

36	这个村子在一个月前被毁灭，61个人被杀。	The village was destroyed in a month ago, 61 people were killed.	D
37	游客们被纪念碑的雄伟所感动。	The visitors are touched by the grandness of the monument.	
38	维生素 D 不光帮助人体吸收钙，而且现在被认为在骨骼的修复方面起着重要的作用。	Vitamin D not only helps the body absorb calcium, but also is believed to play an important role in bone repair.	
39	对被不公正解雇一事工人们表示愤慨。	On being unfairly dismissed workers expressed indignation.	A, D
40	两个镜头被审查员剪掉了。	Two scenes were cut by the censor.	
41	如果你想被晋升，你就必须使人们承认你的权威。	If you want to be promoted, you must make people acknowledge your authority.	D
42	你必需确保你的狗被接种了防病疫苗。	You must ensure that your dogs were inoculated with the vaccine research.	D
43	你最好跑否则你会被落在后面。	You'd better run or you will fall behind.	B
44	在这儿倒垃圾要被罚款的。	You'll be fined if you dump here.	
45	如果你不想让这些小树被风刮倒的话，你就得把它们埋深一些。	If you don't want to let the young trees were blown down words, you'll have to bury them deep.	C, D, E
46	你的意见已被记载并将对此作调查。	Your advice has been recorded and will be investigated.	D
47	您原有的许可证似乎无效或已被损坏。	You a license to the original appears to be invalid or damaged.	C, D, E
48	我们正被跟踪。	We are tracking.	D, G
65			

49	我们被禁止在校园内抽烟。	We are prohibited from smoking on school grounds.	
50	我们准时到达了机场，不料却被告知我们的航班被取消了。	We arrived at the airport, only to be told that our flight has been canceled.	E
51	我们会为此而被开除的。	We will therefore be expelled.	B
52	我们有可能被敌人俘虏。	We may have been captured by the enemy.	B
53	我们意识到我们全部谈话已被记录。	We are aware that we all talk has been recorded.	C, D
54	我们被要求削减预算。	We were asked to cut the budget.	B
55	我们深深被那感伤的电影所感动。	We were deeply moved by the sad movie.	B
56	我们被大雾困在伦敦机场达十二小时。	We were fogbound at London Airport twelve hours.	E
57	当抹香鲸生病时，它会产生出一种脂肪物质，被称为龙涎香。	When a sperm whale is sick, it will produce a fatty substance, called ambergris.	
58	当我听到我的朋友们谈论我时，我很生气感到被出卖了。	When I heard my friends talk about me, I am very angry felt betrayed.	B
59	当轮到她走过棺材时，她被一种强烈的厌恶感控制住了，并退了回去。	When she passed the coffin, she was a strong distaste for control, and back.	A, D, E
60	中国则被美视为21世纪初在东南亚乃至亚洲的最大竞争对手。	Chinese is USA regarded as the beginning of twenty-first Century and even in Southeast Asia's biggest competitor.	A, E
61	中国是否同梵蒂冈建交的问题，成为朱镕基访意期间被传媒询问的焦点。	Since the establishment of diplomatic relations with the Vatican Chinese whether problem, become the focus during the visit by the media asked Zhu rongji.	A, D, E

62	那档电视节目插进的商业广告太多了, 不断被打断。	The TV program is inserted into the business too much advertising, was constantly interrupted.	D, E
63	会议被恶劣的天气耽搁了。	The meeting was delayed by the bad weather.	B
64	屋子里的每个人都被音乐的欢快所感染。	Everyone in the room was music cheerful infection.	A, E, G
65	美国中西部地区常被喻为美国的粮仓。	The central and western regions America is often compared to a American granary.	B
66	矿坑坍塌时, 矿工被活活埋在里面了。	When the tunnel collapsed, the miners were buried alive.	B
67	月亮被云遮住了。	The moon was obscured by clouds.	
68	那个电影明星坐在咖啡桌旁, 被漂亮的姑娘们围着。	The movie star sitting in the Coffee table, was pretty girls around.	E, G
69	控告他犯有谋杀罪是令人相信, 但没有被证实。	He is guilty of murder charges is convincing, but has not been confirmed.	D
70	新来的男孩在校老是被人欺侮。	The new boy was constantly bullied at school.	B
71	叛乱在几天之内就被镇压下去了。	The rebellion was suppressed in a couple of days.	
72	稻田被淹没了。	The rice fields were flooded.	
73	整个地区一直被指定为再发展区。	The whole area has been designated as a development area.	E
74	这些新规定已经被懦弱的经理们利用来避免雇用黑人。	These new rules have been weak managers use to avoid hiring blacks.	A, E, G
75	总统被暗杀的消息震惊了全国。	The news of the president's murder rocked the nation.	B

76	夜莺在古代被选为歌唱家的最高典范。	The Nightingale was chosen as the most typical singer in ancient times.	B
77	罪犯被送到教养院。	The offender was sent to a reformatory.	B
78	这军官被降为士兵。	The officer was reduced to the ranks.	
79	老太太的话不时被外面的吵闹声所打断。	The old lady's words were punctuated by noise from outside.	
80	这家工厂的旧机器迟早将被淘汰。	The old machinery in this factory will be eliminated sooner or later.	B
81	那个老办法已被淘汰。	The old method has been eliminated.	B
82	老妇人被活活饿死。	The old woman died of starvation.	B
83	联机目录被细分成四个主要部分, 每部分包括伯克利学术经验的不同方面。	Online catalog is subdivided into four parts, each part includes different aspects of Berkeley's academic experience.	C
84	那政权被推翻以后, 有一段时期是无政府状态。	After the overthrow of the regime was, there was a period of anarchy.	D
85	这幅画被已故的温莎公爵夫人捐赠给了那所大学。	This painting was the late Duchess of Windsor donated to the university.	A, E, G
86	议会制系统已被证明特别适应于改变的环境。	Parliamentary systems have proven to be particularly adapted to the changing environment.	
87	那位党的领导人已被其对手取而代之。	The party leader has been its rival replace sb.	D, E, G
88	乘客及船员都被多佛尔的救生艇救出。	The passengers and crew were brought off by the Dover lifeboat.	

89	病人被接上了监测器。	The patient was connected to the monitor.	
90	增加的工资会被通货膨胀所抵销。	Wage increases are offset by inflation.	B, I
91	那电话亭被一群少年歹徒故意破坏了。	The phone box was vandalized by a gang of youths.	B
92	这个医生被控告接受了药商的值得怀疑的资金。	The doctor was accused of receiving questionable funds	E
93	该计划现已被搁置, 不大可能重新启用。	The plan has been shelved, unlikely to re enable.	E
94	飞机被闪电击中时正朝东北方向飞去。	The plane was struck by lightning in the Northeast direction.	B
95	这位诗人也将作为幽默作家和讽刺家被人们怀念。	The poet will also as a humorist and satirist is remembered.	A, E, G
96	那名政治犯在受秘密审判后被处决了。	The political prisoner was executed after a secret trial.	
97	那可怜的小狗被人遗弃了。	The poor little puppy had been abandoned	
98	那个唱流行歌曲的歌手被一群青年团团围住。	The pop singer was mobbed by a group of young people.	B
99	食物中毒的可能性已被排除。	The possibility of food poisoning has been ruled out.	E
100	马铃薯被削了皮并切成了块。	The potatoes were peeled and cut into chunks.	B

Appendix 4

English passive voice and corpus translation

	Source Sentence(from Lu Wei corpus)	Target Sentence (translation from Lu Wei corpus) [Golden Standard]
1	We portrayed an animal released by humans that was a lie.	我们刻画了一头被人类释放的动物，然而这是一个谎言。
2	Mr. Bingley will not be detained in London by them.	彬格莱先生不会被她们扣留在伦敦的。
3	Feature animation was dominated by one style: Disney.	电影动画被一风格主导：迪斯尼风格。
4	I was surprised by how easy it was to fly,considering I'd never flown a jet before.	我发现驾驶飞机非常容易，感到非常吃惊。我此前从未开过喷射飞机。
5	O'Neill's plays were inspired by Greek tragedy.	奥尼尔创作戏剧的灵感源自希腊悲剧。
6	Unfortunately, our expectations are confounded by poor design.	不幸的是，我们的期望被糟糕的设计所混淆。
7	The work has been delayed by a dispute.	那件工作被争论给耽搁了。
8	The whole area was ravaged by forest fires.	整个地区都被森林大火毁灭了。
9	The whole community was horrified by the cold-blooded murder of the young girls.	整个社会都被残酷地杀害那些小女孩的案件惊骇了。
10	The whole dictionary has been keyboarded into the computer.	整部字典已被输入电脑。
11	The pilot was grounded for 3 days.	该飞行员被停飞3天。

12	Many settlers were allured by promises of easy wealth.	很多安家落户的人都是受了诱惑，以为转眼就能发财而来的。
13	Mary was twitted by a satirical old lady.	玛丽受到这个爱讽刺人的老太太的嘲笑。
14	The old man was surrounded by a troop of children.	老人被一群孩子围住了。
15	The whole city was burned to the ground.	整座城市都被烧光了。
16	The auxiliary units are called in only when the main force has been overtaxed.	只有在主力军承受过重压力时才会召来预备部队。
17	The window pane was broken by the child.	窗上的玻璃叫那个孩子打破了。
18	The problem must be dealt with by appropriate means at an appropriate time.	这个问题必须在适当的时候以适当的方式予以处理。
19	His research findings have been highly evaluated.	他的研究成果获得了高度评价。
20	The boy's school records were not seen by his parents.	那男孩的成绩没有让他父母看到。
21	Various measures are being adopted in order to reduce the unemployment rate of our country.	为降低失业率，许多措施被采纳。
22	The spread of AIDS can be controlled through education.	艾滋病的蔓延问题可以通过教育加以控制。
23	The dictionaries have been affected with damp.	这些字典受潮了。
24	He was carefully nursed by Carrie's mother.	他受到嘉莉母亲的细心护理。
25	Our foreign policy is supported by the people all over the world.	我们的对外政策受到全世界人民的支持。

26	Anyone who leaves litter in these woods shall be prosecuted.	凡在这些树林里乱扔废物者必将受到指控。
27	Only those parts of the moon which are lighted up by the sun are bright.	月亮只有受到太阳照射的部分才是亮的。
28	I was seized with sadness as I thought of how the ancient city had been spared during the Second World War and now might be destroyed by an impending riot.	我想到了这座古城在第二次世界大战期间幸免遇难、现在却要遭到即将到来的暴乱的破坏，内心感到悲伤。
29	The little boy was criticized three times last week.	这个小男孩上周挨了三次批评。
30	I started to explain that I could not do my best since my spectacles had been taken away from me, but she would not let me finish.	我开始解释说，我不可能干得最好，因为我的眼镜已给拿走了，但她不准我讲完。
31	All the money I had saved was stolen.	我所有的积蓄都给偷走了。
32	The old man was knocked down by a speeding truck.	那位老人是让一辆超速行使的卡车撞倒的。
33	Early fires on the earth were certainly caused by nature, not by man.	地球上早期的火肯定是由大自然引燃的，而不是人类所为。
34	The three machines can be controlled by a single operator.	这三台机器可以由一人单独操纵。
35	Natural light or “white” light is actually made up of many colors.	自然光或者说“白”光，实际上是由许多颜色组成的。
36	The science fiction has been translated into Chinese by a friend of mine.	那部科幻小说是由我的一个朋友译成中文的。
37	He was released immediately after Batista fled from Cuba.	在巴蒂斯塔逃离古巴后，他马上获释。
38	It must be dealt with at the appropriate time with appropriate means.	这种事情必须在适当的时候用适当的手段予以处理。

39	Problems should be resolved in good time.	问题应该及时加以解决。
40	Population growth can be controlled if we make up our mind.	如果下定决心，人口增长是能够加以控制的。
41	To separate iron from the impurities the iron ores must be melted.	为了使铁跟杂质分离，铁矿石必须经过冶炼。
42	As soon as all the facts have been found out, we can begin to formulate a theory.	一旦所有的事实为人们所发现，理论即可逐步形成。
43	Our plan has been approved by the President of our university.	校长批准了我们的计划。
44	A new way of displaying time has been given by electronics.	电子技术提供了一种新的显示时间的方法。
45	Friction can be reduced and the life of the machine prolonged by lubrication.	润滑可以减少摩擦，延长机器寿命。
46	The result of the invention of the steam engine was that human power was replaced by mechanical power.	蒸汽机发明的结果是，机械力代替了人力。
47	By the end of the war 800 people had been saved by the organization, but at a cost of over 200 Belgian and French lives.	大战结束的时候，这个组织拯救了八百人，但那是以二百多比利时人和法国人的生命为代价的。
48	To explore the moon's surface, rockets were launched again and again.	为了探测月球的表层，人们一次又一次地发射火箭。
49	Mr. Billings cannot be deterred from his plan.	人们不能阻止比林斯先生实行他的计划。
50	Copper articles have been used for several thousand years.	人们使用铜器已有数千年了。
51	The workers were seen repairing the machine.	有人看见工人们在修理机器。

52	The lecture is considered very important for beginners.	大家认为这讲座对初学者很重要。
53	If you are asked personal questions, you need not answer them.	如果有人问你的私事，你尽可以不答。
54	Rivers are controlled by dams.	拦河堤把河流控制住了。
55	Other forms of energy can be changed to electric energy by generators.	发电机能把其他形式的能转变为电能。
56	He has been trying to find a way in which rubber could be made hard, non-sticky, and yet elastic.	他一直在寻找一种方法，把橡胶做得硬而不粘，而且还有弹性。
57	The famous hotel had been practically destroyed by the big fire.	大火使这著名的旅馆几乎全部毁灭。
58	We are kept strong and well by clean air.	洁净的空气使我们身体健壮。
59	Their friendship was turned to enmity through idle gossips.	流言蜚语使他们之间的友谊变成了怨仇。
60	He was assassinated in a theater last night.	他昨晚在一家剧院遇刺身亡。
61	Solution to the problem was ultimately found.	问题的解决方法终于找到了。
62	A new student is kept on probation for one semester.	新学生要见习一个学期。
63	If you are pushed for time, you had better give it up though it's your favorite.	如果你时间紧迫，你就割爱吧。
64	The happy man cannot be harried.	吉人自有天相。
65	This thing must be handled with care.	这东西必须轻拿轻放。

66	The laundry has been done and was put in the basket.	衣服已洗好，放在筐里了。
67	Most of the questions have been settled satisfactorily, and only a few questions of secondary importance remain to be discussed.	多数问题已圆满解决，只剩下几个次要问题有待讨论。
68	The Great Hall of the People was built in 1959.	人民大会堂是在1959年修建的。
69	Printing was introduced into Europe from China.	印刷术是从中国传入欧洲的。
70	The first explosive in the world was made and used in China.	世界上最早的炸药是在中国制作和使用的。
71	The decision to attack was not taken lightly.	进攻的决定不是轻易做出的。
72	Many documents still remain to be waded through.	许多文件是仍然需要耐心阅读的。
73	China-ink stains cannot be washed out.	墨汁斑渍是洗不掉的。
74	Rainbows are formed when sunlight passes through small drops of water in the sky.	彩虹是在阳光透过天空中的小水滴时形成的。
75	English is spoken in Britain, the U. S. and some other countries.	讲英语的国家有英国、美国和其他一些国家。
76	The findings of the court will be published on Wednesday.	法庭将在星期三公布调查结果。
77	Many new opportunities will be opened up in the course of time for those with a university education.	今后，具有大学文化水平的人将会获得很多新的就业机会。
78	It's crystal clear: what's been schemed for in his plan is power rather than money.	很清楚，他这个计划图谋的是权，而不是钱。

79	My brother was taught shorthand by Mr. Green.	我弟弟的速记是格林先生教的。
80	Communications satellites are used for international living transmission throughout the world.	全世界都将通信卫星用于国际实况转播。
81	Many voices have been raised demanding the setting up of an Arab common market.	许多人要求建立一个阿拉伯共同市场。
82	When the anthem had been played, the Congress began.	奏完国歌后，大会开始。
83	A telephone was fitted up in the pavilion.	亭子里装了一部电话。
84	The last time I went back to my hometown, a big power station was being built there.	上次我回家时，那儿正在修建一所大发电站。
85	Helsinki became a flourishing port, and a university was founded at Turku.	霍尔辛基变成了一个繁荣的港口，在图尔库还建成了一所大学。
86	The complains were not well listened to.	没有很好地倾听这些批评意见。
87	The unpleasant noise must be immediately put an end to.	必须立即终止这种讨厌的噪音。
88	Attention has been paid to the new measures to prevent corrosion.	已经注意到这些新的防腐措施。
89	Many strange new means of transport have been developed in this century.	在本世纪，发明了许多新奇的交通工具。
90	The quality of the products must be guaranteed.	必须确保产品质量。
91	It was suggested by him.	提出这个建议的是他。
92	He was questioned by a policeman.	盘问他的的是一个警察。

93	You will be severely punished if you do not obey.	你不服从，就会受到严惩。
94	Even if problems do emerge, they can be easily corrected or solved.	即使问题的确出现了，也可以轻易地得到改正或解决。
95	The production plan was carried through due to the common effort of the workers and staff.	在全体工作人员的共同努力下，这项生产计划得以顺利实施。
96	The culture of antiquity was rediscovered.	古代文明重新被发现。
97	The difference between a brain and a computer can be expressed in a single word: complexity.	人脑与电脑的区别可以用一个词形容：复杂性。
98	Darwin's theories about evolution were denounced by many people as monstrous and anti religious.	达尔文的进化论曾被许多人指责为荒谬的和异端的。
99	These tyres are advertised as being everlasting.	广告说这些轮胎耐磨长寿。
100	Tobacco is considered to be an evil.	烟草被认为是一害。

Appendix 5

Chinese passive voice and Google translation

	Source Sentence	Google Translation	Error Type
1	We portrayed an animal released by humans that was a lie.	我们刻画了人类释放的动物，这是一个谎言。	G
2	Mr. Bingley will not be detained in London by them.	彬格莱先生不会被扣留在伦敦他们。	A, G
3	Feature animation was dominated by one style: Disney.	功能动画的主导力量是一种风格：迪士尼。	D
4	I was surprised by how easy it was to fly,considering I'd never flown a jet before.	我被它多么容易飞惊讶，考虑到我从来没有坐过飞机喷气式。	C, D
5	O'Neill's plays were inspired by Greek tragedy.	奥尼尔的剧作由古希腊悲剧启发。	B
6	Unfortunately, our expectations are confounded by poor design.	不幸的是，我们的期望被糟糕的设计所混淆。	
7	The work has been delayed by a dispute.	这项工作已被推迟了争执。	C
8	The whole area was ravaged by forest fires.	整个地区被破坏了森林大火。	E
9	The whole community was horrified by the cold-blooded murder of the young girls.	整个社会感到震惊的年轻女孩的冷血谋杀。	E
10	The whole dictionary has been keyboarded into the computer.	整个字典已被输入到计算机中。	B

11	The pilot was grounded for 3 days.	飞行员被停飞3天。	B, F
12	Many settlers were allured by promises of easy wealth.	许多定居者被简单的财富的承诺诱惑。	B
13	Mary was twitted by a satirical old lady.	玛丽挖苦被一个讽刺的老太太。	A
14	The old man was surrounded by a troop of children.	老汉被包围的孩子们的队伍。 ‘	A
15	The whole city was burned to the ground.	整个城市被烧成平地。	B
16	The auxiliary units are called in only when the main force has been overtaxed.	预备部队被调用只有当主力已经不堪重负了。	A
17	The window pane was broken by the child.	窗玻璃被孩子打破。	B, F
18	The problem must be dealt with by appropriate means at an appropriate time.	这个问题必须在适当的时间进行处理通过适当的方式。	A
19	His research findings have been highly evaluated.	他的研究成果得到了高度评价。	
20	The boy's school records were not seen by his parents.	男孩的学校记录并没有看到他的父母。	D, G
21	Various measures are being adopted in order to reduce the unemployment rate of our country.	被采纳，以减少我国的失业率各项措施。	A
22	The spread of AIDS can be controlled through education.	艾滋病的传播可以通过教育来控制。	B
23	The dictionaries have been affected with damp.	该词典已经受潮。	F
24	He was carefully nursed by Carrie's mother.	他仔细地嘉莉的母亲调养。	G

25	Our foreign policy is supported by the people all over the world.	我们的外交政策被人在世界各地的支持。	D
26	Anyone who leaves litter in these woods shall be prosecuted.	任何人谁留下的垃圾在这些树林里，可被检控。	B
27	Only those parts of the moon which are lighted up by the sun are bright.	月亮只有那些经照亮了太阳的部分是光明的。	C
28	I was seized with sadness as I thought of how the ancient city had been spared during the Second World War and now might be destroyed by an impending riot.	我被抓住了悲伤，因为我想到了如何古城在第二次世界大战期间被饶恕了，现在可能会被即将发生的骚乱被破坏。	C
29	The little boy was criticized three times last week.	小男孩上周被批评三次。	B
30	I started to explain that I could not do my best since my spectacles had been taken away from me, but she would not let me finish.	我开始解释，我不能做我的最好的，因为我的眼镜已经采取了离我而去，但她不会让我说完。	H
31	All the money I had saved was stolen.	所有我省下的钱被偷了。	B
32	The old man was knocked down by a speeding truck.	这位老人被一辆疾驰的卡车撞倒。	B, F
33	Early fires on the earth were certainly caused by nature, not by man.	火早期地球上肯定是由大自然而不是人为造成的。	B
34	The three machines can be controlled by a single operator.	三台机器可以由单个操作者进行控制。	B
35	Natural light or “white” light is actually made up of many colors.	自然光或者“白光”实际上是由许多色彩组成了。	B, F
36	The science fiction has been translated into Chinese by a friend of mine.	科幻小说已被翻译成中文被我的一个朋友。	A
37	He was released immediately after Batista fled from Cuba.	他立即被释放后，从巴蒂斯塔逃离古巴。	A

38	It must be dealt with at the appropriate time with appropriate means.	它必须处理在适当的时间以适当的手段。	B, F
39	Problems should be resolved in good time.	问题应及时解决。	
40	Population growth can be controlled if we make up our mind.	人口增长可以，如果我们下决心进行控制。	A, G
41	To separate iron from the impurities the iron ores must be melted.	从杂质的铁矿石必须熔化分离铁。	A, G
42	As soon as all the facts have been found out, we can begin to formulate a theory.	一旦所有的事实为人们所发现，我们可以开始制定一个理论。	B
43	Our plan has been approved by the President of our university.	我们的计划已经通过我们的大学校长。	A, G
44	A new way of displaying time has been given by electronics.	显示时间的新方法已经由电子给出。	B
45	Friction can be reduced and the life of the machine prolonged by lubrication.	摩擦可通过润滑降低并机器的寿命延长。	
46	The result of the invention of the steam engine was that human power was replaced by mechanical power.	蒸汽机的发明的结果是，人的力量被替换成机械动力。	B
47	By the end of the war 800 people had been saved by the organization, but at a cost of over 200 Belgian and French lives.	到战争结束800人已被救了组织，但在超过200个比利时人和法国人的生命为代价。	A, D
48	To explore the moon's surface, rockets were launched again and again.	去探测月球的表面，火箭一次次被发射。	B
49	Mr. Billings cannot be deterred from his plan.	比林斯先生不能从他的计划却步。	B, H
50	Copper articles have been used for several thousand years.	铜制品已使用几千年。	B

51	The workers were seen repairing the machine.	工人们看到修理机器。	G
52	The lecture is considered very important for beginners.	该讲座被认为对初学者很重要。	B
53	If you are asked personal questions, you need not answer them.	如果你被要求私人问题，你不用回答。	B
54	Rivers are controlled by dams.	河流被水坝控制。	B
55	Other forms of energy can be changed to electric energy by generators.	其它形式的能量可以被发电机改变为电能。	B
56	He has been trying to find a way in which rubber could be made hard, non-sticky, and yet elastic.	他一直试图找到一种方法，其中橡胶可以做硬，无粘性，但弹性。	B
57	The famous hotel had been practically destroyed by the big fire.	著名的酒店已被大火几乎摧毁了。	B
58	We are kept strong and well by clean air.	我们被洁净空气保持强大和好。	D
59	Their friendship was turned to enmity through idle gossips.	他们的友谊是通过空闲八卦转到敌意。	
60	He was assassinated in a theater last night.	他在剧院被暗杀昨晚。	C
61	Solution to the problem was ultimately found.	解决问题的方法最终被发现。	B
62	A new student is kept on probation for one semester.	新的学生维持试读一学期。	B
63	If you are pushed for time, you had better give it up though it's your favorite.	如果你被压时间，你最好放弃它，虽然它是你的最爱。	B
64	The happy man cannot be harried.	快乐的人，不能忙碌。	B

65	This thing must be handled with care.	这个东西必须小心轻放。	B
66	The laundry has been done and was put in the basket.	洗衣已经完成，并放在篮子里。	B
67	Most of the questions have been settled satisfactorily, and only a few questions of secondary importance remain to be discussed.	大部分问题已经圆满解决，而只是次要的几个问题有待讨论。	
68	The Great Hall of the People was built in 1959.	人民大会堂建于1959年。	
69	Printing was introduced into Europe from China.	印刷术传入欧洲由中国。	A, B
70	The first explosive in the world was made and used in China.	在世界上第一个炸药作出及运用在中国。	A
71	The decision to attack was not taken lightly.	进攻的决定不是轻易作出的。	
72	Many documents still remain to be waded through.	许多文件仍然要通过趟过。	D
73	China-ink stains cannot be washed out.	墨渍不能冲刷掉。	
74	Rainbows are formed when sunlight passes through small drops of water in the sky.	在阳光穿过天空的小水珠彩虹的形成。	A
75	English is spoken in Britain, the U. S. and some other countries.	英语口语在英国，美国和其他一些国家。	E
76	The findings of the court will be published on Wednesday.	法院的研究结果将发表在周三。	B
77	Many new opportunities will be opened up in the course of time for those with a university education.	许多新的机会将开辟随着时间的推移对那些受过大学教育的。	E

78	It's crystal clear: what's been schemed for in his plan is power rather than money.	这一清二楚：在他的计划什么的被策划的，是权力而不是金钱。	D
79	My brother was taught shorthand by Mr. Green.	我的哥哥是由格林先生教的简写。	D
80	Communications satellites are used for international living transmission throughout the world.	通信卫星被用于世界各地的国际化生活传播。	B
81	Many voices have been raised demanding the setting up of an Arab common market.	很多声音已经提出，要求一个阿拉伯共同市场的建立。	B
82	When the anthem had been played, the Congress began.	当国歌被演奏了，国会开始了。	B
83	A telephone was fitted up in the pavilion.	一个电话是安装在亭子。	A
84	The last time I went back to my hometown, a big power station was being built there.	最后一次我回到我的家乡，一个大电站正在建造那里。	A
85	Helsinki became a flourishing port, and a university was founded at Turku.	赫尔辛基成为一个繁荣的港口，和一所大学成立于图尔库。	D
86	The complains were not well listened to.	该抱怨没有得到很好的倾听。	B
87	The unpleasant noise must be immediately put an end to.	该不愉快的噪音必须立即制止。	B, F
88	Attention has been paid to the new measures to prevent corrosion.	关注已经支付给新的措施，以防止腐蚀。	A, D
89	Many strange new means of transport have been developed in this century.	交通工具的许多新奇的装置已经发展在本世纪。	A

90	The quality of the products must be guaranteed.	产品的质量必须得到保证。	B
91	It was suggested by him.	有人提出由他。	D
92	He was questioned by a policeman.	他质疑警察。	D, G
93	You will be severely punished if you do not obey.	你将受到严厉处罚，如果你不服从	A
94	Even if problems do emerge, they can be easily corrected or solved.	即使问题显现了出来，他们可以很容易地纠正和解决。	D
95	The production plan was carried through due to the common effort of the workers and staff.	生产计划通过执行由于职工的共同努力。	C
96	The culture of antiquity was rediscovered.	古代的文化重新被发现。	B
97	The difference between a brain and a computer can be expressed in a single word: complexity.	人脑与电脑之间的区别可以表现为一个词：复杂性。	B
98	Darwin's theories about evolution were denounced by many people as monstrous and anti religious.	达尔文的进化论理论被许多人指责为怪异和反宗教的。	B
99	These tyres are advertised as being everlasting.	这些轮胎都标榜是永恒的。	B
100	Tobacco is considered to be an evil.	烟草被认为是邪恶的。	D

Appendix 6

Chinese passive voice and Baidu translation

	Source Sentence	Baidu Translation	Errors type
1	We portrayed an animal released by humans that was a lie.	我们描绘的人类，是一个谎言释放动物。	A, G
2	Mr. Bingley will not be detained in London by them.	彬格莱先生不会被他们关押在伦敦。	B
3	Feature animation was dominated by one style: Disney.	动画片是一个风格主导：迪士尼的。	G
4	I was surprised by how easy it was to fly,considering I'd never flown a jet before.	我被它是有多容易飞惊讶，考虑到我从未飞过喷射之前。	D
5	O'Neill's plays were inspired by Greek tragedy.	奥尼尔戏剧的灵感源自希腊悲剧。	
6	Unfortunately, our expectations are confounded by poor design.	不幸的是，我们的期望是由设计不良混淆。	B
7	The work has been delayed by a dispute.	这项工作已经由一个争议延迟。	B
8	The whole area was ravaged by forest fires.	整个地区都被森林大火。	E
9	The whole community was horrified by the cold-blooded murder of the young girls.	整个社区的年轻女孩的冷血谋杀震惊。	G
10	The whole dictionary has been keyboarded into the computer.	整部字典已被输入电脑。	
11	The pilot was grounded for 3 days.	飞行员被停飞3天。	B, F

12	Many settlers were allured by promises of easy wealth.	许多移民都吸引了易财富的承诺。	A, G
13	Mary was twitted by a satirical old lady.	玛丽的嘲笑讽刺的老太太。	A, G
14	The old man was surrounded by a troop of children.	老人被一群孩子围住。	B
15	The whole city was burned to the ground.	整个城市被烧毁。	B
16	The auxiliary units are called in only when the main force has been overtaxed.	辅助单元被称为只有当主力已经负担过重。	A, D
17	The window pane was broken by the child.	窗玻璃被这小孩打碎。	B, F
18	The problem must be dealt with by appropriate means at an appropriate time.	这个问题必须处理在适当的时间以适当的方式。	A
19	His research findings have been highly evaluated.	他的研究成果已高度评价。	H
20	The boy's school records were not seen by his parents.	男孩的学校记录不被父母看到。	B
21	Various measures are being adopted in order to reduce the unemployment rate of our country.	各种措施被采用，以降低我国失业率。	B
22	The spread of AIDS can be controlled through education.	艾滋病的传播可以通过教育。	E, G
23	The dictionaries have been affected with damp.	这些字典受潮了。	
24	He was carefully nursed by Carrie's mother.	他被卡丽的母亲的精心护理。	B
25	Our foreign policy is supported by the people all over the world.	我们的对外政策受到全世界人民的支持。	

26	Anyone who leaves litter in these woods shall be prosecuted.	凡是在此树林丢垃圾的人，都将被依法处置。	B
27	Only those parts of the moon which are lighted up by the sun are bright.	只有那些部分被太阳照亮的月球是明亮的。	A
28	I was seized with sadness as I thought of how the ancient city had been spared during the Second World War and now might be destroyed by an impending riot.	我感到悲伤，当我想到这座古老的城市幸免第二次世界大战期间，现在却要遭到即将到来的暴乱的破坏。	
29	The little boy was criticized three times last week.	小男孩被批评三次上周。	C
30	I started to explain that I could not do my best since my spectacles had been taken away from me, but she would not let me finish.	我开始解释，我干不好是因为我的眼镜已给拿走了，但她不让我讲完。	B
31	All the money I had saved was stolen.	我所有的积蓄都被偷了。	B
32	The old man was knocked down by a speeding truck.	老人被一辆超速行驶的卡车撞倒。	F
33	Early fires on the earth were certainly caused by nature, not by man.	地球上早期的火肯定是由大自然，不是人。	E
34	The three machines can be controlled by a single operator.	这三台机器可以由一人单独操作。	B
35	Natural light or “white” light is actually made up of many colors.	自然光或“白”的光实际上是由许多种颜色。	E
36	The science fiction has been translated into Chinese by a friend of mine.	科幻小说是我的一个朋友翻译成中文。	G
37	He was released immediately after Batista fled from Cuba.	他是巴蒂斯塔逃离古巴后立即释放。	G
38	It must be dealt with at the appropriate time with appropriate means.	它必须在适当的时候用适当的手段处理。	B

39	Problems should be resolved in good time.	有问题要及时加以解决。	B
40	Population growth can be controlled if we make up our mind.	人口的增长就可以使我们的头脑控制。	A, G
41	To separate iron from the impurities the iron ores must be melted.	为了使铁跟杂质分离，铁矿石必须融化。	B
42	As soon as all the facts have been found out, we can begin to formulate a theory.	一旦所有的事实被发现，我们可以开始制定一个理论。	B
43	Our plan has been approved by the President of our university.	我们的计划已经被我们大学的校长批准。	B
44	A new way of displaying time has been given by electronics.	一个新的显示时间的方法已通过电子技术。	E
45	Friction can be reduced and the life of the machine prolonged by lubrication.	可以减少摩擦，延长机器寿命润滑。	E
46	The result of the invention of the steam engine was that human power was replaced by mechanical power.	蒸汽机发明的结果是机械力代替了人力。	
47	By the end of the war 800 people had been saved by the organization, but at a cost of over 200 Belgian and French lives.	800的人被这个组织拯救了战争结束时，但在成本超过200比利时人和法国人的生活。	A, C
48	To explore the moon's surface, rockets were launched again and again.	为了探测月球的表面，一次又一次地发射火箭。	E, G
49	Mr. Billings cannot be deterred from his plan.	不能阻止比林斯先生实行他的计划。	B
50	Copper articles have been used for several thousand years.	铜制品已使用了几千年。	B
51	The workers were seen repairing the machine.	看见工人在修理机器。	E, G

52	The lecture is considered very important for beginners.	该讲座是对初学者很重要。	G
53	If you are asked personal questions, you need not answer them.	如果有人问你的个人问题，你不必回答他们。	B, H
54	Rivers are controlled by dams.	河流被控制的水坝。	A
55	Other forms of energy can be changed to electric energy by generators.	其他形式的能量可以转化为电能的发电机。	G
56	He has been trying to find a way in which rubber could be made hard, non-sticky, and yet elastic.	他一直在寻找能使橡胶硬，不粘的方式，但却有弹性。	B
57	The famous hotel had been practically destroyed by the big fire.	著名的酒店大火几乎摧毁了。	C, G
58	We are kept strong and well by clean air.	我们保持强大的通过清洁空气很好。	H
59	Their friendship was turned to enmity through idle gossips.	他们的友谊变成仇恨通过空闲的流言。	A
60	He was assassinated in a theater last night.	他昨晚在一家剧院遇刺身亡。	
61	Solution to the problem was ultimately found.	终于找到这个问题的解决方法。	B
62	A new student is kept on probation for one semester.	一个新的学生要见习一个学期。	B
63	If you are pushed for time, you had better give it up though it's your favorite.	如果你时间紧迫，你最好放弃它吧。	B
64	The happy man cannot be harried.	快乐的人不会苦恼。	B
65	This thing must be handled with care.	这个东西必须轻拿轻放。	

66	The laundry has been done and was put in the basket.	衣服已洗好，放在篮子里了。	
67	Most of the questions have been settled satisfactorily, and only a few questions of secondary importance remain to be discussed.	大部分问题已经圆满解决了，只剩下几个次要问题进行讨论。	
68	The Great Hall of the People was built in 1959.	人民大会堂建于1959。	
69	Printing was introduced into Europe from China.	印刷术是从中国传入欧洲。	
70	The first explosive in the world was made and used in China.	世界上第一个炸药是在中国制造和使用的。	
71	The decision to attack was not taken lightly.	进攻的决定不是轻易作出的。	
72	Many documents still remain to be waded through.	许多文件仍然需要浏览。	B
73	China-ink stains cannot be washed out.	墨水污迹洗不掉。	B
74	Rainbows are formed when sunlight passes through small drops of water in the sky.	彩虹是阳光透过天空中的小水滴时形成的。	
75	English is spoken in Britain, the U. S. and some other countries.	讲英语的国家有英国，美国和其他一些国家。	
76	The findings of the court will be published on Wednesday.	法庭的裁决将于星期三公布。	B
77	Many new opportunities will be opened up in the course of time for those with a university education.	许多新的机遇将提供给那些受过大学教育的时间过程。	E
78	It's crystal clear: what's been schemed for in his plan is power rather than money.	这是清晰的：什么是被计划为在他的计划就是力量而不是钱。	

79	My brother was taught shorthand by Mr. Green.	我弟弟的速记是格林先生教的。	
80	Communications satellites are used for international living transmission throughout the world.	通信卫星用于国际直播整个世界。	A
81	Many voices have been raised demanding the setting up of an Arab common market.	许多人要求建立一个阿拉伯共同市场。	
82	When the anthem had been played, the Congress began.	当国歌已经玩了，国会开始。	D
83	A telephone was fitted up in the pavilion.	里装了一部电话亭。	E, G
84	The last time I went back to my hometown, a big power station was being built there.	我最后一次回到我的家乡，一个大的电站正在建造。	B
85	Helsinki became a flourishing port, and a university was founded at Turku.	赫尔辛基变成了一个繁荣的港口，在图尔库还建成了一所大学。	
86	The complains were not well listened to.	抱怨没有很好地倾听。	G
87	The unpleasant noise must be immediately put an end to.	令人不愉快的声音必须立即结束。	B
88	Attention has been paid to the new measures to prevent corrosion.	已经注意到新的措施以防止腐蚀。	A, D
89	Many strange new means of transport have been developed in this century.	许多新奇的交通工具已在本世纪发展起来的。	B
90	The quality of the products must be guaranteed.	产品的质量必须得到保证。	B

91	It was suggested by him.	它是由他提出的。	B
92	He was questioned by a policeman.	他被一名警察审问。	B
93	You will be severely punished if you do not obey.	你将受到严厉惩罚，如果你不服从。	A
94	Even if problems do emerge, they can be easily corrected or solved.	即使问题的出现，他们可以很容易地纠正或解决。	
95	The production plan was carried through due to the common effort of the workers and staff.	生产计划进行由于职工的共同努力。	B
96	The culture of antiquity was rediscovered.	古代文化重见天日。	B
97	The difference between a brain and a computer can be expressed in a single word: complexity.	大脑与电脑的差别可以用一个词来表达：复杂性。	B
98	Darwin's theories about evolution were denounced by many people as monstrous and anti religious.	达尔文的进化理论是被很多人视为畸形的和反宗教谴责。	B
99	These tyres are advertised as being everlasting.	这些轮胎做广告为永恒的。	D
100	Tobacco is considered to be an evil.	烟草是一种罪恶。	G